

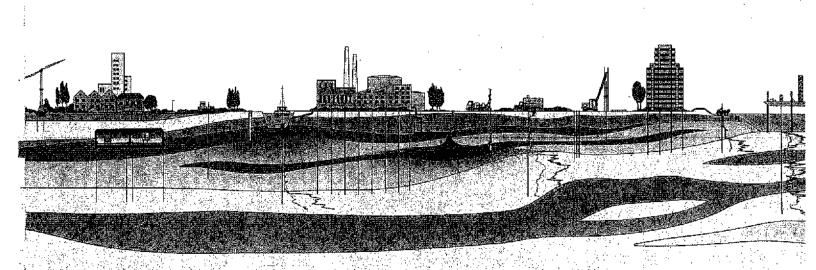
FUGRO-McCLELLAND (WEST), INC.

PHASE II SITE ASSESSMENT/ REMEDIATION REPORT

FORMER MAINTENANCE YARD 4750 WHEATLAND AVENUE LOS ANGELES, CALIFORNIA

Prepared for:
BURBANK GLENDALE PASADENA AIRPORT AUTHORITY

August 1993



FUGRO-McCLELLAND (WEST), INC.



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NO. 37667

Exp. 12-31-96

August 25, 1993 Project No. 92-41-3394

Burbank Glendale Pasadena Airport Authority 2627 Hollywood Way Terminal A, Second Floor Burbank, California 91505

Attention: Mr. Dan Feger

Phase II Site Assessment/Remediation Report Former Maintenance Yard 4750 Wheatland Avenue Los Angeles, California

Dear Mr. Feger:

This report presents the results of our site assessment and remediation conducted at the above-referenced facility. The sampling program was conducted for the Burbank Glendale Pasadena Airport Authority in general accordance with our proposals dated February 12, 1993, and June 14, 1993, and the terms and conditions of the Basic Agreement for Environmental Engineering Services.

We appreciate the opportunity to have worked with you on this interesting assignment. Please call the undersigned if you have any questions or comments.

No. 5196

OF CALIFY

Sincerely, FUGRO-McCLELLAND (WEST), INC.

Thomas D. Matteucci, R.G.

nior Geologist

Thomas W. McNeilan, P.E. Principal Engineer

TDM/TWM:dg

copies submitted: (3)

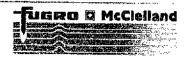
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INTRODUCTION

This report documents the methodology, conclusions, and recommendations of an assessment and remediation program at the former maintenance yard located at 4750 Wheatland Avenue in Los Angeles, California. The work was conducted for the Burbank Glendale Pasadena Airport Authority (Authority) as authorized in our proposals dated February 12, 1993, and June 14, 1993. Preliminary results of the site assessment program were summarized in our report dated June 14, 1993 (Preliminary Phase II Site Assessment Report, Former Maintenance Yard, 4750 Wheatland Avenue, Los Angeles, California). Based on the results and recommendations contained within the preliminary assessment, final site remediation has been implemented.

Included with this report are the following appendices: Appendix A - Logs of Drill Holes and Cone Penetrometer Tests, Appendix B - Laboratory Analytical Reports, and Appendix C - Waste Manifests.

Purpose and Scope

The purpose of our assessment and remediation was to evaluate the possible presence of subsurface site contamination within the footprint of the proposed new construction, and remediate discovered contamination to acceptable levels. The scope of work was developed through conversations with the Authority and included the following:

- Preparation and implementation of a site-specific health and safety plan.
- Review of prior environmental documentation regarding the site provided by the Authority.
- Completion of a subsurface assessment using hollow-stem auger and cone
 penetrometer testing (CPT) techniques to develop stratigraphy, collect soil samples
 for laboratory analysis, and to collect shallow soil-gas samples for onsite screening
 for the presence of volatile organic vapors.
- Collection of soil samples from the sides of the former service bay excavation, soil stockpiled from that excavation, and discolored surface soil.
- Excavation and transport of lead- and hydrocarbon-contaminated soil to the Gibson
 Oil and Refining Co. Inc., facility in Bakersfield, California.
- Preparation of this report documenting the methods, findings, and conclusions of the Phase II site assessment and remediation.

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Site History and Description

The former maintenance yard is located west of and adjacent to the active airport aprons/taxiway at 4750 Wheatland Avenue, south of Saticoy Street (Plate 1 - Vicinity Map). We understand that the facility has been abandoned for about 2 years and has been used periodically as a contractor laydown yard and staging area during the interim. We were informed by you that several underground storage tanks were previously removed from the northwest quadrant of the site, but that no indications of gross subsurface contamination were observed during the tank removals.

Two buildings, located in the western third of the site, were demolished in May 1993 and the construction materials removed from the site (Plate 2 - Site Plan). A single-story, 40- by 30-foot wood-frame office building, Building 505, was located in the northwest corner of the site. A 40- by 100-foot metal maintenance building, Building 502, was present in the southwest corner of the site. A vehicle service bay was located below the concrete floor near the eastern end of the building. A plywood lean-to addition (approximately 15- by 20-foot), located on the east side of the maintenance building, was reportedly used as a paint bay or disposal area.

Except for the buildings and a concrete slab to the east of the maintenance building, the site appeared to have an unpaved gravel surface. When site work for the Phase II assessment was conducted on May 20 and May 27, 1993, the site surface was observed to be comprised mostly of disturbed sandy soil. The central portion of the site was comprised of undisturbed soil with a dark, discolored area measuring approximately 50 feet by 50 feet (see Plate 2). This area appeared to be a low area of the site, possibly where surface drainage collected. During site work by Fugro-McClelland in August 1993, remnants of 1- to 2-inch asphalt pavement were observed in the eastern third of the site, near the gate to the apron/taxiway.

Three unidentified holes measuring a few feet in diameter and about 10 feet deep (locations are shown on Plate 2), also were observed. The hole located near drill hole No. 7 (DH-7) was lined with cinder block. These holes may be related to septic systems, although no odor or moisture was apparent. A historic drainage swale, reportedly located along the eastern site perimeter (draining from the north), had been filled.

Previous Subsurface Investigation

An environmental document provided by the Authority entitled Soil Gas Survey by Target Environmental Services, Inc., (November 1991) contains previously acquired site-specific information and was reviewed by Fugro-McClelland for this assessment. The Target Environmental sampling included subsurface soil-gas sampling at 23 locations in the maintenance yard (Plate 2). Six of these locations included soil-gas sampling at about 5-foot depth intervals down to 20 feet, while the remainder of locations included soil-gas sampling at 6-foot depths



only. The Target Environmental report documents analyses for petroleum and halogenated hydrocarbons for each soil-gas sample.

Target Environmental reported tetrachloroethene levels ranging from 0.06 to 3.0 micrograms per liter (μ g/l), and 1,1,1-trichloroethane (1,1,1-TCA) at levels ranging from 0.15 to 1.3 μ g/l at depths between 6 and 20 feet below ground surface (bgs) at the site. The higher values were located beneath and near Building 502. The report states that the concentrations of volatile hydrocarbons beneath and near Building 502 indicated potential contamination in the soil, but that other concentrations in other areas were insignificant.

Regional Conditions

The Burbank Glendale Pasadena Airport is located on the piedmont slope to the southwest of the adjacent Verdugo Mountains. Hence, the airport and its vicinity are underlain by thick deposits of sediments that have been eroded from the adjacent mountains and redeposited to form the piedmont. The ground surface in the area slopes to the south. At the project site, the surface elevation is about 757 feet above mean sea level (MSL).

The composition of the nearby mountains, as well as prior subsurface sampling at the airport, suggests that the underlying sediments are composed primarily of coarse-grained sand and gravel. Cobbles and boulders may be present either in a sand and gravel matrix or as layers. Silt and clay layers are known to be locally present within the sediment sequence. Prior data suggest that the lateral continuity of the fine-grained sediments is limited.

The project area is within the San Fernando Ground Water Basin. Based on ground water levels recorded as part of the ongoing North Hollywood National Priorities List studies, the ground water surface was at about elevation 500 feet above MSL in April 1991 (i.e., about 260 feet bgs).

SITE ASSESSMENT SAMPLING AND TESTING METHODOLOGY

Drill Holes

Ten shallow drill holes were advanced at the site on May 20, 1993. The drill hole locations are shown on Plate 2. The drill holes were advanced with a truck-mounted, hollow-stem-auger drill rig (operated by Valley Well Drilling of Ventura, California) under the technical direction of a Fugro-McClelland field geologist. A California Registered Geologist was onsite to observe the sampling techniques. The first five drill holes were advanced to depths between 10 and 20 feet in the area of the former service bay in Building 502. Drill holes DH-6 and



DH-7 were advanced to 10-foot depths near the unidentified holes in the northwestern corner of the site. Drill holes DH-8, DH-9, and DH-10 were each advanced to 8 feet in depth in the central area of the site where the surficial soils were stained.

The soil lithology was logged by observing discrete soil samples and cuttings generated during drilling. Soil samples were collected generally in the first foot of depth and at 3- or 5-foot intervals to the full depth of the drill holes. Soil samples were obtained by driving a modified California split-spoon sampler with a 140-pound hammer dropped 30 inches. The number of blow counts per one-half-foot required to drive the sampler were recorded during logging of the holes.

The samples were recovered in stainless-steel 2.5-inch-diameter, 3-inch-long sampler sleeves, sealed with Teflon sheets and plastic end caps, labeled, and stored in a cooler with artificial ice. The samples were transported to a state-certified laboratory for analysis. The laboratory employed was National Environmental Testing, Inc., of Burbank, California. Two duplicate samples were submitted for laboratory analysis for quality assurance purposes. Prior to each sampling attempt, the sampler and sample liners were decontaminated by washing with a nonphosphate detergent and doubly rinsed with deionized water.

Of the remaining sleeves in the sampler, one was capped and stored on artificial ice for subsequent screening with a photoionization detector (PID) in the Fugro-McClelland office. The screening was not performed in the field because of a malfunction of the PID instrument. PID readings were tabulated and included in the drill hole logs. The remaining samples in each sampler were visually classified and observed for signs of contamination.

Excavated soils were placed in a labeled 55-gallon drum of the type approved by the U.S. Department of Transportation. The drum was stored onsite pending laboratory analysis of the soil samples. Sloughing of soil occurred in the drill holes, filling about the lower third of the holes. The upper portion of the holes were backfilled with hydrated bentonite chips. After laboratory results indicated no detectable contamination in the drummed soil, it was emptied onsite and the drum removed.

Soil Samples Collected by Hand

Several soil samples were collected on May 20, 1993, in 2.5-inch-diameter, 3-inch-long, decontaminated, stainless-steel sleeves and handled in the same manner as those collected during the drilling operation. The soil stockpile from the service bay excavation was sampled in this manner, as were the east and west sides of the excavation at a depth of about 3 feet. A sample of the stained surficial soil in the central portion of the site was also collected.



Cone Penetrometer Testing

On May 27, 1993, seven test holes (CPT-1 through CPT-7) were advanced for standard CPT soundings to develop shallow stratigraphy beneath the site, and to collect limited additional samples for environmental profiling. The locations of these test holes are shown on Plate 2.

The first test hole was advanced to a depth of approximately 48 feet before the probe tip met with refusal. CPT-1 was completed in the central portion of the west end of the site. CPT-2 and CPT-3, sounded to 10 feet in depth, were located in the eastern portion of the site. CPT-4 and CPT-5 were sounded in the northwestern portion of the site within 10 feet of each other. CPT-4 was advanced to, and met refusal at, 27 feet. In an attempt to complete a deeper sounding, CPT-5 was advanced. However, refusal was met at about 22 feet in CPT-5. CPT-6 and CPT-7 were advanced in the southwestern corner of the site (to about 38 feet) and near the southern unidentified hole (to about 20 feet), respectively.

After the CPT test holes, soil samples were collected using the CPT rig at locations immediately adjacent to CPT holes CPT-1, CPT-6, and CPT-7. The samples were collected within the first foot of the surface and at depths of 3 and 8 feet in all three holes, and at depths of 11 and 16 feet in CPT-7. Soils were screened onsite for volatile organics using a Photovac Microtip II PID. PID readings were tabulated and included in the logs.

The geologist logged CPT-1, CPT-6, and CPT-7 from observation of the soil samples collected in those holes. The CPT soundings generated separate logs of the lithology based on the ratio of tip resistance to sleeve friction measured throughout the testing. All CPT-generated holes were backfilled with bentonite grout.

Soil-gas samples from depths of 12 and 15 feet in CPT-7 were collected using the CPT soil-gas sampling probe. Soil-gas samples were pumped from discrete depths through Teflon tubing into Tedlar sample bags and field-screened with the PID for volatile hydrocarbons.

Laboratory Analysis

The laboratory analysis was conducted in accordance with the Regional Water Quality Control Board's Well Investigation Program guidelines. Selected soil samples were analyzed for total recoverable petroleum hydrocarbons (TRPH) using EPA method 418.1; volatile and semivolatile hydrocarbons using EPA methods 8240 and 8270, respectively; fuel fingerprint, and benzene, toluene, ethylbenzene, and total xylenes (collectively referred to as BTEX) by EPA methods 8015, modified, and 8020, respectively; and CAM metals by method 6010 (except for arsenic by method 7060, lead by method 7421, mercury by method 7471, and selenium by method 7740). Methods 8015 and 8020 are used for identifying carbon chains roughly C-4 to C-30 (gasoline, jet fuels, diesel, motor oil, and crude oil), quantified against a diesel standard.



SITE ASSESSMENT RESULTS

Subsurface Conditions

Appendix A contains the data collected in the field regarding each drill hole. A key to terms and symbols used in the logs is also provided. The CPT sounding data is presented in log form also, at the end of Appendix A.

The earth materials encountered were primarily yellowish brown, poorly graded, loose and dense sand with gravel. Subrounded cobbles, less than a few inches in any dimension, were common. Some silty sand layers also were encountered. These observations were corroborated by the CPT data. Ground water was not encountered in any of the drill holes.

No volatile hydrocarbons were detected in the soil samples screened using the PID. None of the samples from the subsurface appeared discolored or odorous. The soil-gas samples did not contain volatile hydrocarbons detectable to the PID.

Laboratory Analytical Results

The results of the laboratory analyses are shown in Table 1 - Soil Sample Analytical Results - Hydrocarbon Compounds, and Table 2 - Soil Sample Analytical Results - Metals. The reports submitted by the laboratory and the chain-of-custody documentation accompanying the samples to the laboratory are included in Appendix C.

No volatile or semivolatile organics were detected in any of the samples analyzed for these constituents. Additionally, no BTEX constituents were detected.

In analyzing for fuel fingerprint, the laboratory detected some hydrocarbons identified as motor oil (although quantified as diesel). Motor oil at a concentration of 61 parts per million (ppm) was detected in the sample from 0.5 feet in DH-10 (located in the stained surficial soil area of the site). That sample also contained TRPH at a concentration of 110 ppm. Motor oil also was detected, but at much lower concentrations (0.9 to 9.0 ppm), in both samples collected from the soil stockpiled ("spoil pile") from the service bay excavation. No TRPH were detected in those samples. Sample CPT-1 at 8 feet contained a TRPH concentration of 76 ppm and a motor oil concentration of 24 ppm. No other samples contained TRPH or fuel levels greater than 5 ppm.

A composite soil sample collected from the stained surficial soil area also was tested for CAM metals (see Table 2). With the exception of lead, none of the metals were detected in excess of 10 times the soluble threshold limit concentration of 5 milligrams per liter (mg/l).



Lead was detected in that sample at a concentration of 300 milligrams per kilogram (mg/kg). A waste extraction test (WET) was performed on that sample with a resulting concentration of 16 mg/l. To evaluate the extent of lead contamination in the surrounding area, the samples collected from borings DH-8, 9, and 10 at depths of 0.5 feet and 3.0 feet were additionally tested for soluble lead. All of those additional samples were reported to have soluble lead concentrations well below the established hazardous waste limit.

SITE ASSESSMENT CONCLUSIONS AND RECOMMENDATIONS

Based on the observations and analyses reported herein, limited areas of soil contamination in the form of motor oil or diesel and/or lead were found to exist at the site. Contamination, where present, was found to be localized to the near surface. Although there are no clearly established cleanup levels for petroleum hydrocarbons in soil, a general cleanup level of 100 mg/kg is considered to be fairly conservative, in the absence of other contaminants, especially if there is considerable separation between the contamination and the underlying ground water. Because ground water is known to be greater than 200 feet bgs, a 100 mg/kg hydrocarbon cleanup level is considered by Fugro-McClelland to be conservative for this site.

Low levels of hydrocarbon contamination were detected in the excavated stockpiled soil near Building 502 (less than 10 mg/kg). Because of these low levels and the absence of other contaminants (volatile and semivolatile organics), it is our opinion that this material is suitable for use as backfill at the site. In our draft report of June 14, 1993 (Preliminary Phase II Site Assessment Report, Former Maintenance Yard, 4750 Wheatland Avenue), we recommended that the stockpiled soil be used for backfilling the former service bay excavation.

Low levels of hydrocarbon contamination were detected at 8 feet in depth in CPT-1 (76 mg/kg as TRPH). That test location was in an area with no expected contaminant source. Those levels were not considered by Fugro-McClelland to be sufficiently high to warrant remediation or further investigation in this area.

The subsurface soil samples collected near the two unidentified holes in the northwestern portion of the site did not contain evidence of contamination. Very low levels (about 5 mg/kg) of motor oil were detected near the southern unidentified hole near the former plywood addition. No paint-related contamination was detected near the former paint booth/plywood addition east of Building 502.

The area of stained surface soil in the central portion of the site was found to be contaminated with lead and slightly contaminated with motor oil. That area of the site is apparently a low spot where surface drainage would pool. Lead was found to be present in a

- 7 -



composite surface sample at hazardous concentrations. The lead-contaminated soil was found to be localized to the discolored soil at the surface and did not migrate vertically. Six additional samples collected in that area at depths ranging from 0.5 to 3 feet had low or nondetectable concentrations of lead. One of the three samples collected at 0.5 feet had a hydrocarbon concentration (TRPH) in excess of 100 ppm. In our draft report dated June 14, 1993, we recommended that the stained surface soil in the central portion of the facility be excavated and hauled to an approved treatment/disposal facility. Following is a summary of the remediation that was performed in this regard.

SITE REMEDIATION

Prior to site remediation, copies of laboratory analytical data were forwarded to Gibson Oil & Refining Co., Inc. of Bakersfield, California. The soil was pre-approved for acceptance to be recycled using a transportable treatment unit, which operates under permit by rule granted by the Department of Health Services.

Remediation of the stained surface soil in the central portion of the facility was conducted on August 11, 1993. Soil excavation and hauling was conducted by OST Trucks and Cranes of Ventura, California. The remediation activities were supervised by a Fugro-McClelland geologist. The upper 6 to 8 inches of soil in the stained surface soil area was scraped using a 545A Ford skiploader. Soil staining was observed to extend down a few inches throughout most of the area and no deeper than 6 inches. Approximately 15 cubic yards of soil was scraped, loaded, and removed by truck. The material was transported to the Gibson facility under hazardous waste manifest (see Appendix C).

During scraping of the contaminated soil along the easternmost edge, a 1- to 2-inch asphalt layer was observed. The layer appeared to be fairly old and patchy. The approximate configuration of the asphalt is shown on Plate 2. The discolored soil was not observed to be in contact with the asphalt layer. The asphalt layer was not removed. We recommend that during site grading, that layer be excavated, stockpiled separately, and transported offsite.

LIMITATIONS

This report has been prepared for the Burbank Glendale Pasadena Airport Authority as a field assessment and remediation at the former maintenance yard located at 4750 Wheatland Avenue in Los Angeles, California. In performing our professional services, we have applied present engineering and scientific judgment and used a level of effort consistent with the standard



of practice relative to the date of this report and in the locale of the project site for similar type studies. Fugro-McClelland (West), Inc., makes no warranty, express or implied, concerning any of the materials or services furnished by Fugro-McClelland (West), Inc.

The analyses and interpretations in this report have been developed based on the results of a limited soil sampling and analytical testing program. It should be recognized that subsurface contamination can vary laterally and with depth below a given site, and that the evaluation contained herein is based on sampling results at the sample locations identified.



Table 1. Soil Sample Analytical Results, Hydrocarbon Compounds

(Values in milligrams per kilogram)

Sample Location	Depth (feet)	TRPH	Fuel Fingerprint	Benzene	Toluene	Ethyl- benzene	Total Xylenes	Volatile Organics	Semi- Volatile
DH-1	0.5	ND	ND	ND	ND	ND	ND		Organics
	5	ND			7112				****
	10								
	15								
DH-2	0.5								
	2.5	ND						ND	ND
	5						-		
	10	ND						ND	ND
	15								
DH-3	5	ND						ND	ND
	10	ND				204	****		
DH-4	0.5				-				
	2.5	ND	ND	ND	МĎ	ND	ND		
	.5								
	10	ND				,	_ -		
	15								
DH-5	2.5	ND					_		
	5	ND	ND	ND	ND	ND	ND		
	7.5	NITS :			*			— ~	
DH-X	12.5	ND							
(Duplicate from DH-5)	5	ND	ND	ND	ND	ND	ND		
DH-6	10	ND	****		→			ND	ND
	15								—
DH-7	10	ND	 						—
	15	ND						ND	ND
DH-Y (Duplicate from DH-7)	10				•	<u>—</u>			
DH-8	0.5	ND							
	3	ND						·	
	8		<u> </u>				<u> </u>		
DH-9	0.5	ND						ND	ND
	3	ND							
	8				÷==				7***
DH-10	,					***			
	0.5	110	61 (motor oil)	ND	ND	ND	ND		
	3	ND							
	. 8		·		**-				
East Sidewall of Service	3	ND	ND	ND	ND	ND	ND		
Bay Pit									
West Sidewall of Service Bay Pit	3	ND	ND	:	44			ND	ND



Table 1. (Continued)

Sample Location	Depth (feet)	TRPH	Fuel Fingerprint	Веплеле	Toluene	Ethyl- benzene	Total Xylenes	Volatile Organics	Semi- Volatile Organics
Spoil Pile North	NA	ND	9.0 (motor oil)	ND	ND	ND	ND		
CPT-1	0,5	ND							
	3		3.0 (moter oil)	NÐ	ND	ND	ND		
	8	76	24.0 (motor oil)						
CPT-6	0.5	4.6**		—					
	3		4.0 (motor oil)	ND	ND	ND	ND		
	8	ND							
CPT-7	0.5								
	3	ND							
•	8	4.6**	_						
	11	-	4.8 (motor oil)	ND	ND	ND	ND		
	16				777	0.0011**		ND	
Spoil Pile South	NA	ND	0.9 (moter oil)		- ,			ND	ND
Method Detec	tion Limit	2	*	0.0003	0.0003	0.0003	0.001	*	*
Practical Qu Lim		10	*	0.005	0.005	0.005	0.015	*	*

* Detection limits listed on attached laboratory reports

** Result is above method limit, but below laboratory practical detection limit

TRPH Total recoverable petroleum hydrocarbons

ND Not detected at or above laboratory detection limits

NA Not applicable
-- Not analyzed

Note: Motor oil concentrations are quantitated as diesel.

Table 2. Soil Sample Analytical Results, Metals

	Results in mg/kg			Resu m						Detection	e Limit
Compound Analyzed		DH-8 @ 0.5 feet	DH-8 @ 3 feet	DH-9 @ 0.5 foot	DH-9 @ 3 feet	DH-10 @ 0.5 foot	DH-10 @ 3 feet	STLC	TTLC	Total Concentration	Soluble Concentration
Antimony	ND							15	500	10	NA
Arsenic	37		++	-				5	500	0.5	NA
Barium	110							100	10,000	2.0	NA
Beryllium	ND					***		0.75	75	2.0	NA
Cadmium	ND							1	100	2.0	NA
Chromium	42							560	2,500	2.0	NA
Cobalt	7.3				-			80	8,000	5.0	NA
Copper	61							25	2,500	2.0	NA
Lead	*300 (16)1	0.63	ND	0.98	0.10	0,34	ND	5	1,000	0.2	0.05
Mercury	0.3			*-				0.2	20	0.1	NA
Molybdenum	ND	- -				:		350	3,500	5.0	NA
Nickel	21							20	2,000	5.0	NA
Selenium	DN -					-		1	100	0.5	NA
Silver	ND							5	500	2.0	NA
Thallium	ND							7	700	20	NA
Vanadium	24			T.L.				24	2,400	5.0	NA
Zinc	180							250	5,000	5.0	NA

NA Not Applicable
-- Not Analyzed

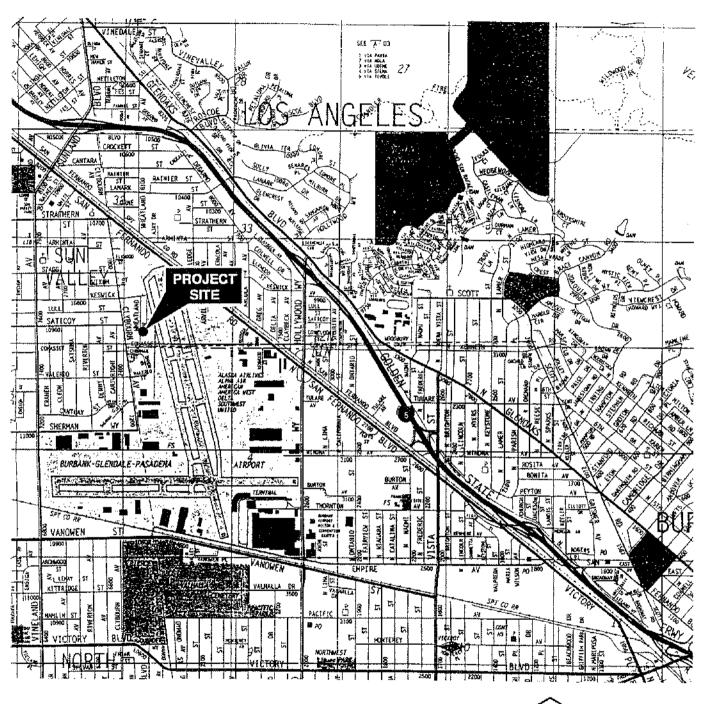
ND Not Detected at Stated Detection Limit STLC Soluble Threshold Limit Concentration TTLC Total Threshold Limit Concentration

Exceeds ten times the STLC. Waste Extraction Test (WET) performed to quantify the soluble lead concentration. Soluble Concentration in mg/l shown in

parentheses

Analysis by NET Pacific





VICINITY MAP

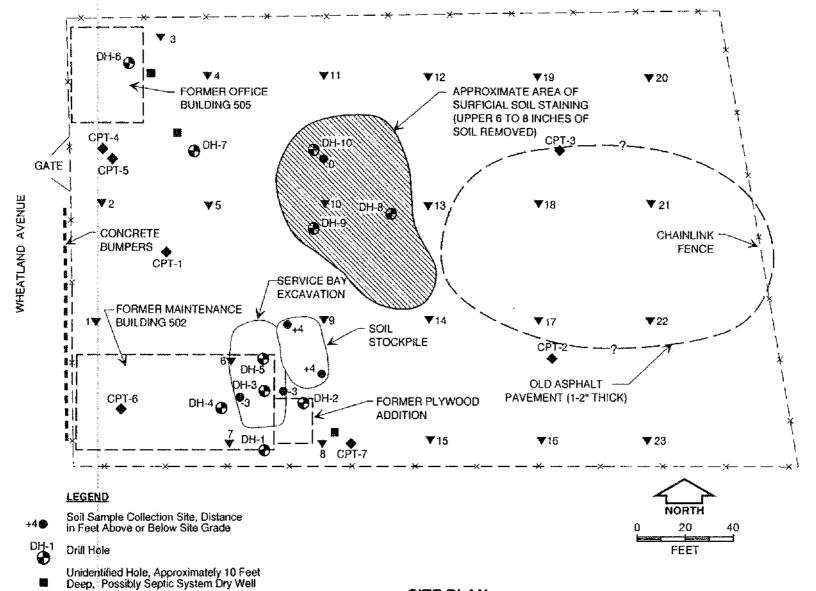
Former Maintenance Yard Wheatland Avenue Los Angeles, California



CPT Location

Services, Inc.)

Soil Gas Sample Location (Target Environmental





Former Maintenance Yard Wheatland Avenue Los Angeles, California

APPENDIX A LOGS OF DRILL HOLES AND CONE PENETROMETER TESTS



·			-			LOCATION: South of service bay pit: former maintenance yard	
ELEVATION, ft	+, #	₹ď	LES	NO.	LER 5/FT	SURFACE EL: 757 ft (approx MSL)	DING
ΥΑŤ	DEPTH, M	MATERIAL	SAMPLES	SAMPLE NO	SAMPLER BLOWS/FT	CONTRACT CL. 707 (C) Approx MGL	PID READING
표	7	2		ઝ	v, æ	MATERIAL DESCRIPTION	P 08
		- : : : :		1	1251	Medium to coarse SAND (SP): medium dense, grayish brown, damp, some subrounded cobbles to 7" long	
-	-		•			-	
	-		П			- drilled through a rock, at 2.5'	
750	5			2	(28)	SAND with silt and gravel (SP-SM): medium dense, pale yellowish brown, damp, granitic subrounded grains	
	-						
	10"			3	(83)		
					,- +,		< 5
				[
	15						
740				4	(70)		
	-			1	İ		
				-	ļ		
	20						
•	1						
•	-				Ì		
	25						
730				-	ļ		
							,
•	30						-
	4				.		
	35						
720					- Table		
					ALCAROLINA PROPERTY AND ADMINISTRATION OF THE PROPE		
	<u>i</u>						

COMPLETION DEPTH: 16 ft
DEPTH TO WATER: Not Encountered
CAVED TO DEPTH: 8 ft
BACKFILLED WITH: Bentonite DRILLING DATE: May 20, 1993

DRILLING METHOD: Hollow Stem Auger DRILLED BY: Valley Well Drilling LOGGED BY: WCBorst CHECKED BY: TDMatteucci

The log and data presented are a simplification of actual conditions encounts sed at the time of drilling at the drilled location. Substrates conditions may differ at other location, Substrates conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. 1

Former Maintenance Yard, Proposed Heliport Facility 7540 Wheatland Avenue, Los Angeles, California

		1		ļ	LOCATION: East of service bay pit; former maintenance yard	
# ;	Z K	LES	S.	LER SÆT	SLIBFACE FL: 757 ft (approx MSL)	PID READING
EP II	ATE:	AMP	찙	₩ N N	GOTH FIGURE CO. TOTAL (applied 1915)	∰.
	≥	ຶ່	Ϋ́S	ೂಹಃ	MATERIAL DESCRIPTION	OIA
			3	19	Fine to coarse SAND with silt and gravel (SP-SM); medium dense, dark yellowish brown, damp	0
1			2	1201		0
5			3	1171	- moderate yellowish brown, subrounded cobbles to 4" diameter, below 5'	0
-			-			
10			4	1431		0
-				, ,		
1						
15			5	(53)		0
			-			
20						
1						
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	10-	107	10 20 25	10 4 10 5 20 30 30 30 30 30 30 30 30 30 30 30 30 30	3 19 2 20 3 17 10 4 43 20 5 53	# Had Very Service of the process of

COMPLETION DEPTH: 17 ft

DEPTH TO WATER: Not Encountered CAVED TO DEPTH: 8 ft BACKFILLED WITH: Bentonite DRILLING DATE: May 20, 1993

DRILLING METHOD: Hollow Stem Auger
DRILLED BY: Valley Well Drilling
LOGGED BY: WCBorst
CHECKED BY: TDMatteucci

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time,

LOG OF DRILL HOLE NO. 2

Former Maintenance Yard, Proposed Heliport Facility 7540 Wheatland Avenue, Los Angeles, California



		<u> </u>	1			LOCATION: Center of service bay pit; former maintenance yard	·····
ELEVATION, H	#	₹ 7	ES	ON ON	ER /FT		<u>\$</u>
'ATIC	DEPTH, A	MATERIAL SYMBOL	SAMPLES	SAMPLE NO	SAMPLER BLOWS/FT	SURFACE EL: 757 ft (approx MSL)] PID READING
EE	8	\$ €	ŝ	SAN	20.2	MATERIAL DESCRIPTION	5
	_		<u> </u>	<u> </u>			
						Open pit to approximately 4 ft depth	
ļ	-	[1] e				SAND with a selection of the selection o	
	5			1	(28)	SAND with gravel (SP): medium dense, pale yellowish brown, damp, subrounded cobbles to 4"	0
750	1						<u>-</u>
ŀ	-						-
	10			2	(62)		0
	-		1333	1	Ì		
	15				Ì		
740	-			ļ			···
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720	4						
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	i	····	سلسه				

COMPLETION DEPTH: 12 ft
DEPTH TO WATER: Not Encountered
CAVED TO DEPTH: 9 ft
BACKFILLED WITH: Bentonite
DRILLING DATE: May 20, 1993

DRILLING METHOD: Hollow Stem Auger DRILLED BY: Valley Well Drilling LOGGED BY: WCBorst CHECKED BY: TDMatteucci

The log and date presented are a simplification of actual conditions encountered at the time of didling at the drilled leastion. Subsurface conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. 3

Former Maintenance Yard, Proposed Heliport Facility 7540 Wheatland Avenue, Los Angeles, California

#				ا ـ ا		LOCATION: West of service bay pit; former maintenance yard	75
ELEVALJON, R	DEPTH, IR	MATERIAL SYMBOL	SAMPLES	SAMPLE NO	SAMPLER BLOWS/FT	SURFACE EL: 757 ft (approx MSL)	PID READING
<u> </u>	Tep	AATE Sym	AM	MPL	COV		- ReA
	-	2	٠,	ŝ	₩.	MATERIAL DESCRIPTION	96
		٠,		1	(32)	SAND with gravel (SP): medium dense, moderate yellowish brown, damp, subrounded pebbles to 1"	0
				2	(12)	- pale yellowish brown, at 3'	0
	5	•.		3	(46)	- with thin gravel layers and subrounded cobbles to 4", at 5'	
50	-						
	10	•		4	(76)	- dense, moderate yellowish brown, gravel to 1/2", at 10'	ō
	15			5	(40/		
40	4				9")		0
]
	20	•,		6	(111/ 111)		
	1			į			
	25					•	
30	1			Î			
	30						
	1						
:0	35						
	-						

COMPLETION DEPTH: 22 ft

DEPTH TO WATER: Not Encountered CAVED TO DEPTH: 12 ft BACKFILLED WITH: Bentonite DRILLING DATE: May 20, 1993

DRILLING METHOD: Hollow Stern Auger
DRILLED BY: Valley Well Drilling
LOGGED BY: WCBorst
CHECKED BY: TDMatteucci
The log and data pleasanted are a simplification of social
conditions encountered at the terms of drilling at the disabel
location. Subsurface conditions may driller at other
locations and with the passage of time.

LOG OF DRILL HOLE NO. 4

Former Maintenance Yard, Proposed Heliport Facility 7540 Wheatland Avenue, Los Angeles, California



			İ	Ţ	<u> </u>	LOCATION: North-central portion of service bay pit; former maintenance yard	·
ELEVATION, 11	Ť,	≱ 5	ES	NO.	E L	·	ING
VAT	DEPTH, R	MATERIAL SYMBOL	SAMPLES	SAMPLE NO	SAMPLER BLOWS/FT	SURFACE EL: 757 ft (approx MSL)	PID READING
EE	□	≥"	S	85	യയ	MATERIAL DESCRIPTION	£
				,		Open pit to approximately 2 ft depth	
-			-			Silty, fine to medium SAND (SM): medium dense, pale brown, damp	-
-	-			1	(19)		0
	5	٠.		3	(52)	SAND with gravel (SP): medium dense, pale brown, damp - laboratory duplicate sample (DH-X) collected at 5°	0.
750			Ħ		:		
Ĺ	-	•		4	(80)	- coarse grained, from 7.5'	0
	10	٠,					
†	1	•		5	(14)	- foose, at 12.5"	0
-							
ļ ,	15			i			
740							
	Ì			Ì			
-	20						
}	-						
]		
	25			-			
730	-						<u></u>
ļ	-						
				1			
	307				Ì		
}				Ì			
-	4						
	35						
720							
	-						
		···					1

COMPLETION DEPTH: 14 ft
DEPTH TO WATER: Not Encountered
CAVED TO DEPTH: 9 ft
BACKFILLED WITH: Bentonite
DRILLING DATE: May 20, 1993

* Laboratory duplicate sample DH-X collected here

DRILLING METHOD: Hollow Stem Auger DRILLED BY: Valley Well Drilling LOGGED BY: WCBorst CHECKED BY: TDMatteucci

The log and data presented are a simplification of actual conditions ensecutared at the time of drilling at the drilling location. Subserviace conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. 5

Former Maintenance Yard, Proposed Heliport Facility 7540 Wheatland Avenue, Los Angeles, California

						LOCATION: Northwest corner of property; former maintenance yard	
ELEVATION, ft	#	¥್ರೆ	£S	Ş	ER		SNS
/ATK	DEPTH. ft	MATERIAL SYMBOL	SAMPLES	SAMPLE NO	SAMPLER BLOWS/FT	SURFACE EL: 757 ft (approx MSL)	PID READING
ELES	ٔ	S	S.	SAS	ගික්	MATERIAL DESCRIPTION	Ože 1 Ože
		٠,				SAND with gravel (SP): pale yellowish brown, moist	
			1				
		•					
	5	•		į			
750				Ì			
		•					
	10	•		,	(44)	- dense, moderate yellowish brown, damp, subrounded gravel to 2", below 10'	
					,,,,	Collection of the series of th	0
				704.04704444.00			ļ
	15		Z	2	(85/ 10")		
740			$\ \ $	-			į
	20-) 		
	4						
	25						
730	1						
	-						
	20-						
	30~						
	4				! ! !		
	4						
	35						**************************************
720	-						
	1						
		····			1		

COMPLETION DEPTH: 16 ft

DEPTH TO WATER: Not Encountered CAVED TO DEPTH: 11 ft BACKFILLED WITH: Bentonite DRILLING DATE: May 20, 1993

DRILLING METHOD: Hollow Stem Auger
DRILLED BY: Valley Well Drilling
LOGGED BY: WCBorst
CHECKED BY: TDMatteucci

The log and date presented six a simplification of satual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may diller at other locations end with the passage of time.

LOG OF DRILL HOLE NO. 6

Former Maintenance Yard, Proposed Heliport Facility 7540 Wheatland Avenue, Los Angeles, California



F				i		LOCATION: Northwestern portion of property; former maintenance yard	
ELEVATION, #	H.	PIAL 30L	LES	SAMPLE NO.	SAMPLER BLOWS/FT	SURFACE EL: 757 ft (approx MSL)	PID READING
VAT	ОЕРТН, П	MATERIAL SYMBOL	SAMPLES	MPL	LOW		REA
19		2"		Š		MATERIAL DESCRIPTION	₽ £
				۱		Fine to medium SAND (SP): moderate yellowish brown, damp	
4							
	5						
750	4						
-	_]			
				1			
<u> </u>	10			1	(26)	- medium dense at 10'	0
}	-	,		Ì		- laboratory duplicate sample (DH-Y) collected at 10"	
					ļ		
İ	15			2	(20)		
740		-			(20)		0
	_						
					1		
	20						
-	-						
1	1						
	25						
730							
-	-			1			
	30				ļ	•	
-	4						
-	,		THE CONTRACTOR				,
1	35						
720	-			1	İ		
-	-			***************************************			ļ
			Ш		<u>-</u>		

COMPLETION DEPTH: 1.7 ft DEPTH TO WATER: Not Encountered
CAVED TO DEPTH: 9 ft
BACKFILLED WITH: Bentonite
DRILLING DATE: May 20, 1993
* Laboratory duplicate sample DH-Y collected here

DRILLING METHOD: Hollow Stem Auger
DRILLED BY: Valley Well Drilling
LOGGED BY: WCBorst
CHECKED BY: TDMatteucci
The log and data presented are a simplification of sotual annotations encountered at the time of drilling at the drilled location. Subsurfaces conditions may differ at other location. Subsurfaces conditions may differ at other locations and with the presence of time.

LOG OF DRILL HOLE NO. 7

Former Maintenance Yard, Proposed Heliport Facility 7540 Wheatland Avenue, Los Angeles, California

۲ خ		ⅎℲ	S	<u>.</u>	æ.h⊤	LOCATION: Central portion of property; former maintenance yard	ā
5	DEPTH, ft	MATERIAL SYMBOL	SAMPLES	SAMPLE NO.	SAMPLER BLOWS/FT	SURFACE EL: 757 ft (approx MSL)	WG V
ELEVATION, II	DE	NAA SYI	SA	SAM	SAP BLO	MATERIAL DESCRIPTION	PID READING
	1	٠.		1	(86)	Fine to coarse SAND with gravel (SP): medium dense, moderate yellowish brown, damp	
				2	(30)	- decreasing gravel content, pale brown, below 3'	0
50	5	•.					
		•	***	3	(13)	- damp, below 8'	ō
	10						
40	15						
+0							
	20						
	,						
	25					,	
30							
	30						
	40.00						
	35				-		
0							
	1				-		

COMPLETION DEPTH: 10 ft

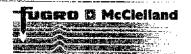
DEPTH TO WATER: Not Encountered CAVED TO DEPTH: 6 ft BACKFILLED WITH: Bentonite DRILLING DATE: May 20, 1993

DRILLING METHOD: Hollow Stem Auger
DRILLED BY: Valley Well Drilling
LOGGED BY: WCBorst

CHECKED BY: TOMATTEUCC:
The log and data presented are a simplification of actual
conditions encountered at the time of drilling at the drilled
location. Subsurface canditions may differ at other
location, Subsurface canditions may differ at other
locations and with the passage of time.

LOG OF DRILL HOLE NO. 8

Former Maintenance Yard, Proposed Heliport Facility 7540 Wheatland Avenue, Los Angeles, California



		<u> </u>	Ţ	Π		LOCATION: Central portion of property; former maintenance yard	<u> </u>
EEVATION, IL	H. 11	₹ 2 2 3	ES	SAMPLE NO.	SAMPLER BLOWS/FT	SURFACE EL: 757 ft (approx MSL)	OING
:VAT	DEPTH, ft	MATERIAL SYMBOL	SAMPLES	MPL	LOW	CONTROL DE 1071, (appliox MOL)	PID READING
9		2	,	Š	"	MATERIAL DESCRIPTION	₽ G₽
				1	(20)	SAND (SP): medium dense, moderate brown, moist, with dusky brown staining in top 4"	< 5
	-		- 🎇			top 4	
				2	(19)	- pale brown, damp, with gravel, below 3'	0
	5						Ì
750							
				3	(25)	- minor gravel, below 8"	0
	10	· · · ·					
	15						
740	-						
, 40	-			,			
	1						
	20						
	4						
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	25			-			
730					}		111
	4						
	30						-
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	35						
720							
. =0							
				-			

COMPLETION DEPTH: 10 ft
DEPTH TO WATER: Not Encountered
CAVED TO DEPTH: 8 ft
BACKFILLED WITH: Bentonite
DRILLING DATE: May 20, 1993

DRILLING METHOD: Hollow Stem Auger
DRILLED BY: Valley Well Drilling
LOGGED BY: TOMATEUCCI
CHECKED BY: TOMATEUCCI

The leg and data practiced are a simplification of actual conditions encountared at the time of drilling at the drilled location. Subseques conditione may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. 9

Former Maintenance Yard, Proposed Heliport Facility 7540 Wheatland Avenue, Los Angeles, California

3380#2

BIGHT & A/0027

	i					LOCATION: Central portion of property; former meintenance yard	· · ·
ELEVATION, ft	#	₹⋥	S.	စ္ခဲ	F.T		55
ATIO	DEPTH, ft	MATERIAL SYMBOL	SAMPLES	SAMPLE NO	SAMPLER BLOWS/FT	SURFACE EL: 757 ft (approx MSL)	PID READING
E.E.	DE	¥¥	8	SAM	SA BLO		D AR
			L,			MATERIAL DESCRIPTION	∓
	}			1	(17)	Silty SAND (SM): medium dense, moderate brown, moist, some dusky brown staining in top 4 inches	0
]		H			Stanting in top 4 mones	
	<u>}</u>	- luplus i -		2	(23)	SAND (SP): medium dense, moderate brown, damp	-
	5			ļ	ļ		<u> </u>
750		.		-			
750	ŀ	• : • : • :	1	İ	Î		
]			3	(48)	- dense, pale brown, below 8'	
	10						
				į	1		
	1			İ	ļ		
	4						
	15				-		
740	1						
	+				j		
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	4			į			
	25						
730	Ī	-			ĺ		
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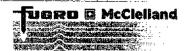
COMPLETION DEPTH: 10 ft

DEPTH TO WATER: Not Encountered CAVED TO DEPTH: 7 ft BACKFILLED WITH: Bentonite DRILLING DATE: May 20, 1993

DRILLING METHOD: Hollow Stem Auger
DRILLED BY: Valley Well Drilling
LOGGED BY: WeBorst
CHECKED BY: TDMatteucci
The log and data presented are a simplification of actual conditions encountered at the time of drilling at the disland location. Subsurface boundings may differ at other locations and with the pessage of time.

LOG OF DRILL HOLE NO. 10

Former Maintenance Yard, Proposed Heliport Facility 7540 Wheatland Avenue, Los Angeles, California



		1				LOCATION: 40 ft east of west end of property, between former buildings	4
ELEVATION, K	Ŧ,	RIAL BOL	Y.ES	SAMPLE NO.	SAMPLER BLOWS/FT	SURFACE EL: 757 ft (approx MSL)	PID READING
EVAT	DEPTH, 11	MATERIAL SYMBOL	SAMPLES	AMPL	SAMP	The state of the s	REAL
닯				ŝ		MATERIAL DESCRIPTION	P. G.
				1		Silty fine SAND (SM): loose, dark yellowish brown, damp, with subengular gravel to 1/2"	0
	•						
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-	5						
750	_						-
				3			0
	10			ĺ	ļ		
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740							
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<u> </u>	-			-	İ		
-	25				}		
730							
]						
	30						
}	-			ĺ			
-	-						
	35						
720							
	1			-			
	- 1			1			

COMPLETION DEPTH: 9 ft

DEPTH TO WATER: Not Encountered

CAVED TO DEPTH: No Caving

BACKFILLED WITH: Bentonite Grout

DRILLING DATE: May 27, 1993

* PID reading by Photovec, Microtip II

DRILLING METHOD: Cone Penetrometer
DRILLED BY: Fugro Geosciences
LOGGED BY: WCBorst
CHECKED BY: TDMstteucci
The log and data presented are a simplification of actual

The log and data presented ere a simplification of actual conditions ancountered at the time of diffing at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. CPT-1

Former Maintenance Yard, Proposed Heliport Facility 7540 Wheatland Avenue, Los Angeles, California

	H, #	RIAL	LES	ENO.	YLER IS/FT	LOCATION: Southwestern corner of property SURFACE EL: 757 ft (approx MSL)	DING
ELEVATION, ft	оертн, н	MATERIAL SYMBOL	SAMPLES	SAMPLE NO.	SAMPLER BLOWS/FT	MATERIAL DESCRIPTION	PID READING
******				1	:	Fine to coarse SAND (SP): dark yellowish brown, damp, with minor subrounded gravel to 1.25"	0
	5			2			0
50	2						
	10	: - : - : - : - : - : - : - : - : - : -		3			0
	-						
	15						
40	-						
	20		***************************************				
	•						
	25						4 4114 1
30	-						, , ,
	30						
	-						
	35						
90	-			:			

COMPLETION DEPTH: 9 ft

DEPTH TO WATER: Not Encountered CAVED TO DEPTH: No Caving BACKFILLED WITH: Bentonite Grout DRILLING DATE: May 27, 1993

* PID reading by Photovac, Microtip II

DRILLING METHOD: Cone Penetrometer
DRILLED BY: Fugro Geosciences
LOGGED BY: WCBorst
CHECKED BY: TDMatteucci
The log and data presented are a simplification of actual conditions encountaried at the time of dilling at the drilled location. Subsurface conditions may differ at other locations and with the pessage of time.

LOG OF DRILL HOLE NO. CPT-6

Former Maintenance Yard, Proposed Heliport Facility 7540 Wheatland Avenue, Los Angeles, California



ELEVATION, ft	DEPTH, A	MATERIAL SYMBOL	PLES	SAMPLE NO.	SAMPLER BLOWS/FT	LOCATION: South property boundary SURFACE EL: 757 ft (approx MSL)	ADING
ELEVA	DEP	TAM SYA	SAN	SAMP	SAN	MATERIAL DESCRIPTION	PID READING
				1		Fine SAND (SP): loose, moderate brown, damp	0
	5			2		Fine to medium SAND (SP): loose, dark yellowish brown, damp	0
750							
	10"			3			0
 - 	,			4		- granitic rock at 11' - soil gas sample taken at 12'	0
740	15			5		- soil gas sample taken at 15' - moist, at 16'	0
	20						1
							Total Fallente - co = -
	25					·	
730	•						
	30						
	35						
720	-						

COMPLETION DEPTH: 17 ft
DEPTH TO WATER: Not Encountered
CAVED TO DEPTH: No Caving
BACKFILLED WITH: Bentonite Grout
ORILLING DATE: May 27, 1993
* PID reading by Photovac, Microtip il

DRILLING METHOD: Come Penetrometer
DRILLED BY: Fugro Geosciences
LOGGED BY: WCBorst
CHECKED BY: TDMatteucci
The log and siste presented are a simplification of actual conditions and countered at the time of drilling at the dished location. Subsurface conditions new differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. CPT-7

Former Maintenance Yard, Proposed Heliport Facility 7540 Wheatland Avenue, Los Angeles, California

=		1,2	3,6		Ţ	4,5	LOCATION: The actual drill hole location	n refe	eren	cing			1	
ELEVATION, ft	DEPTH, ft	MATERIAL	SAMPLES	SAMP! F NO		SAMPLER BLOWS/FT	local landmarks or coordinate SURFACE EL: Using local, MSL, MELW of		iero	latur	773			_
ΕŽ	OEP	MATE	SAM	AMP		SAM	· · · · · · · · · · · · · · · · · · ·						·	General Notes*
3	교						MATERIAL DESCR	IPT	101				}	* General notes reference the sections with itelicized numbers in the header area
			ı		1		Weil graded GRAVEL (GW)			<u>.</u>	/ELL		1	Soil Texture Symbol
ļ 			\bigvee	1		25	Poorly graded GRAVEL (GP)					1	2	,
							GRAVEL with sand (GP or GW)						3	Samplers and sampler dimensions (unless otherwise noted in report text) are as follows:
				2		(25)	Clayey GRAVEL (GC)	ç			7	_		Symbol for:
-90	70.		•				Silty GRAVEL (GM)	COARSE			1	2		Sample No Sampler Type 1 SPT Sampler, driven 1 3/8" ID, 2" OD
30	10-			3		Push	Well graded SAND (SW)]		Z				2 CA Liner Sampler, driven 2 3/8" ID, 3" OD
	•				1		Poorly graded SAND (SP)	GR A				3		3 Thin-walled Tube, pushed 2 7/8" ID, 3" OD 4 Disturbed Sample (bulk)
		•.	KKKK	4			SAND with gravel (SP or SW)	NED		3			4	5 No Sample Recovered Sampler Driving Resistance
	•	//	1		-		Clayey SAND (SC)	D	•		1	4		Number of blows with 140 lb. hammer, felling 30-in, to drive sampler 1-ft, after
			•	5			Silty SAND (SM)							seating sampler 6-in.; for example, Blows/ft Description
-80	20-						SAND with silt (SP-SM)			N896260		5		25 25 blows drove sampler 12" after initial 6" of seating 50/7" 50 blows drove sampler 7"
	•						Fat CLAY (CH)							after initial 6" of seating Ref/3" 50 blows drove sampler 3" during initial 6" seating interval
							Lean CLAY (CL)					6	5	•
							Sandy CLAY (CL)	FIN					6	Length of sample symbol approximates recovery length
-70	30~						Silty CLAY (CL-ML)	N E G				7	7	D2487 or D2488
70	30-						Elastic SILT (MH)	G R A	-				8	font at the top of interpreted interval
	-						SILT (ML)	NED				8	9	Well Construction Legend Section Description 1 Well Cap
	-						Sandy SILT (ML)	-		Ŀ		-		2 Well Cap with concrete 3 Well Cap with grout 4 Solid pipe in concrete
							Clayey SILT (ML/CL)		:			9		5 Solid pipe in grout 6 Solid pipe in bentonite pellets 7 Solid pipe in sand
60	۱n.	1/4			-		High plasticity ORGANICS (OH)	ORGAN		٠.		J		8 Slotted pipe in sand 9 Grout plug 10 Sand Backfill 11 Native Backfill
	+0*	5 本 本 <u>7</u>	-			į	Low plasticity ORGANICS (OL)	ZI-CB					10	
			1		+		SANDSTONE					10	11	
	-						SILTSTONE			 	***			MSL Mean Sea Level MLW Mean Lower Low Water PPM Parts Per Million PPMV Parts Per Million by Volume
	_						CLAYSTONE					11		PCF Pounds Per Cubic Foot
		000	100				Paving Materials			~~ ~	~~~			

APPENDIX B LABORATORY ANALYTICAL REPORTS

58A/4-div.aug BGPAA 0033



Burbank Division 700 South Flower Street Burbank, CA 91502

Tel: (213) 849-6591 Fax: (818) 954-0232

DOHS Certificate Number: 1192 Expiration Date: May 31,1994

06/07/1993

Tom Matteucci Fugro-McClelland 5855 Olivas Park Drive Ventura, CA 93003

Client Ref: Burbank Airport Maintenance

Date Received: 05/27/1993

Sample analysis for the project referred to above has been completed and results are located on attached pages.

Should you have questions regarding procedures or results, please feel welcome to contact our Client Services Representatives or the Laboratory Director.

Kumberly S. Banks
Project Manager

Rick Schrynemeeckers Laboratory Director

KB:rm

Attachments:

Analytical Reports

Chain of Custody Document

'QA'/QC'Data'Reports'

Invoice

Client Net Acct No: 13200

NET Job No: 93.00588





CASE NARRATIVE

Fugro-McClelland 5855 Olivas Park Drive Ventura, CA 93003 06/07/1993

NET Job Number: 93.00588

Tom Matteucci

Following is the case narrative for the following samples submitted to NET, Inc. - Burbank for analysis:

I. CROSS REFERENCE TABLE:

Sample		Date	Date
Number	Sample Description	Taken	Received
54169	CPT-6 @ 1/2'	05/27/1993	05/27/1993
54170	CPT-6 @ 8'	05/27/1993	05/28/1993
54171	CPT-7 @ 3'	05/27/1993	05/28/1993
54172	CPT-7 @ 8'	05/27/1993	05/28/1993
54173	CPT-1 @ 1/2'	05/27/1993	05/28/1993
	CPT-1 @ 8'	05/27/1993	05/28/1993
54174		05/27/1993	05/28/1993
54175	CPT-6 @ 3'	05/27/1993	05/28/1993
54176	CPT-7 @ 11'	, , ,	
54177	CPT-1 @ 3'	05/27/1993	05/28/1993
54178	CPT-7 @ 16'	05/27/1993	05/28/1993

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

page: 2



CASE NARRATIVE (cont.)

II. EXTRACTION: No exceptions were encountered.

III. ANALYSIS

A. Holding Times:

No exceptions were encountered.

B. Analytical Exceptions:

Motor oil was detected in samples analyzed for TPH as Diesel, these samples are flagged with a "n" qualifier.

Sample 54178 , analyzed for method 8240, showed trace levels of Ethyl benzene, this compound was flagged with a "J" qualifier indicating that the result is below the reported PQL.

- IV. QUALITY CONTROL
 - A. Method Blanks:

No exceptions were encountered.

B. Surrogate Recoveries:

No exceptions were encountered.

C. Matrix Spike/Matrix Spike Duplicates (MS/MSD):

No exceptions were encountered.

D. Laboratory Control Samples (LCS):

No exceptions were encountered.

V. OTHER

page: 3



Client Ref.: Burbank Airport Maintenance

NET Job No.: 93.00588

Sample ID : CPT-6 @ 1/2'

Lab No. : 54169

Date Sampled: 05/27/1993 Date Reported: 06/07/1993

Sample Matrix: SOIL

Analytes	Method	Results	Flags	Units	MDL	PQL	Date	Analyst
Method 418.1 (IR, TRPH)	418.1	4.6		mg/Kg	2	10	Analyzed 06/02/1	

ND: Not detected at the Method Detection Limit (MDL)

PQL: Practical Quantitation Limit



Client Ref.: Burbank Airport Maintenance

Date Sampled: 05/27/1993 NET Job No.: 93.00588 Sample ID : CPT-6 @ 8' Lab No. : 54170 Date Reported: 06/07/1993

Sample Matrix: SOIL

Analytes	Method	Results	Flags	Units	MDL	PQL	Date	Analyst
Method 418.1 (IR, TRPH)	418.1	ND		mg/Kg	2	10	Analyze 06/02/	i 1993 skl

ND: Not detected at the Method Detection Limit (MDL)

PQL: Practical Quantitation Limit



Client Ref.: Burbank Airport Maintenance

Date Sampled: 05/27/1993 Date Reported: 06/07/1993

NET Job No.: 93.00588

Sample ID : CPT-7 @ 3' Lab No. : 54171

Sample Matrix: SOIL

Analytes	Method	Results	Flags	Units	MDL	PQL	Date	Analyst
Method 418.1 (IR, TRPH)	418.1	ND		mg/Kg	2	10	Analyzed 06/02/1	

ND: Not detected at the Method Detection Limit (MDL)

PQL: Practical Quantitation Limit



Client Name: Fugro-McClelland Client Ref.: Burbank Airport Maintenance

NET Job No.: 93.00588

Sample ID : CPT-7 @ 8'

Lab No. : 54172

Date Sampled: 05/27/1993 Date Reported: 06/07/1993

Sample Matrix: SOIL

Analytes	Method	Results	Flags	Units	MDL	PQL	Date	Analyst
Method 418.1 (IR,TRPH)	418.1	4.6		mg/Kg	2	10	Analyze 06/02/	d 1993 skl

ND: Not detected at the Method Detection Limit (MDL)

PQL: Practical Quantitation Limit



Client Ref.: Burbank Airport Maintenance

Date Sampled: 05/27/1993 Date Reported: 06/07/1993

NET Job No.: 93.00588

Sample ID : CPT-1 @ 1/2'

Lab No. : 54173 Sample Matrix: SOIL

Analytes	Method	Results	Flags	Units	MDL	PQL	Date	Analyst
Method 418.1 (IR,TRPH)	418.1	ND		mg/Kg	2	10	Analyzed 06/02/1	

ND: Not detected at the Method Detection Limit (MDL)

PQL: Practical Quantitation Limit



Client Ref.: Burbank Airport Maintenance

Date Sampled: 05/27/1993 Date Reported: 06/07/1993

NET Job No.: 93.00588 Sample ID : CPT-1 @ 8'

Lab No. : 54174 Sample Matrix: SOIL

Analytes	Method	Results	Flags	Units	MDL	PQL	Date	Analyst
Method 418.1 (IR,TRPH)	418.1	76		mg/Kg	2	10	Analyzeo 06/02/1	i 1993 skl

ND: Not detected at the Method Detection Limit (MDL)

PQL: Practical Quantitation Limit



Client Ref.: Burbank Airport Maintenance

Date Sampled: 05/27/1993 Date Reported: 06/07/1993

NET Job No.: 93.00588 Sample ID : CPT-6 @ 3'

Lab No. : 54175

Sample Matrix: SOIL

Analytes	Method	Results F	lags	Units	MDL	PQL	Date A	nalys
							Analyzed	•
METHOD DOHS/LUFT, LDL								
Extraction Method	8015 MOD.	3550					06/04/199	3 mmz
Date Extracted	8015 MOD.	06-02-93					06/04/199	3 mmz
Dilution Factor	8015 MOD.	. 1					06/04/199	3 mmz
TOT. PET. HYDROCARBON	8015 MOD.						06/04/199	3 mmz
as Diesel	8015 MOD.	ND n	L	mg/Kg	0.15	1	06/04/199	3 mmz
Surrogate Spike-TPH	8015 MOD.						06/04/199	
Spk Conc Chlorobenzene	8015 MOD.	2.5		mg/Kg			06/04/199	3 mmz
Chlorobenzene	8015 MOD.	. 82		% Rec.			06/04/199	3 mmz
Spk Conc Di-n-octyl-phthala	ate8015 MOD.	. 50		mg/Kg			06/04/199	3 mmz
Di-n-octyl-phthalate	8015 MOD	N/A		% Rec.			06/04/199	
METHOD 8020/8015 MOD. (LDLS))							
Date Extracted		06-02-93					06/02/199	3 scn
Date Analyzed		06-02-93					06/02/199	
Dilution Factor		1					06/02/199	
AROMATIC VOLATILES		~ -					06/02/199	
Benzene	8020	ND		mg/Kg	0.0003	0.005	06/02/199	
Ethylbenzene	8020	ND		mq/Kq	0.0003	0.005	06/02/199	
Toluene	8020	ND		mg/Kg	0.0003	0.005	06/02/199	
2 3	8020	ND		mg/Kg	0.001	0.015	06/02/199	
XVienes, total				2, 2			06/02/199	
Xylenes, total TOT. PET. HYDROCARBONS								
	8015 MOD	. ND		mg/Kg	0.1	1.0		3 san
TOT. PET. HYDROCARBONS as Gasoline	8015 MOD	 ND 0.024			0.1	1.0	06/02/199	
TOT. PET. HYDROCARBONS	8015 MOD			mg/Kg mg/Kg	0.1	1.0		3 scn

ND: Not detected at the Method Detection Limit (MDL)

PQL: Practical Quantitation Limit

n: Motor Oil detected at 4.0 mg/Kg (estimated concentration, quantitated as Diesel).



Client Ref.: Burbank Airport Maintenance

Date Sampled: 05/27/1993 Date Reported: 06/07/1993

NET Job No.: 93.00588

Sample ID : CPT-7 @ 11'
Lab No. : 54176

Sample Matrix: SOIL

Analytes	Method	Results F	Plags	Units	MDL	PQL	Date	Analyst
							Analyze	<u> </u>
METHOD DOHS/LUFT, LDL								
Extraction Method	8015 MOD.	3550					06/04/	1993 mmz
Date Extracted	8015 MOD.	06-02-93					06/04/3	1993 mmz
Dilution Factor	8015 MOD.	. 1					06/04/	1993 mmz
TOT. PET. HYDROCARBON	8015 MOD.						06/04/3	1993 mmz
as Diesel	8015 MOD.	ND r	1	mg/Kg	0.15	1	06/04/	1993 mmz
Surrogate Spike-TPH	8015 MOD.						06/04/3	1993 mmz
Spk Conc Chlorobenzene	8015 MOD.	2.5		mg/Kg			06/04/3	1993 mmz
Chlorobenzene	8015 MOD.	88		% Rec.			06/04/	1993 mmz
Spk Conc Di-n-octyl-phthala	te8015 MOD.	50		mg/Kg			06/04/	1993 mmz
Di-n-octyl-phthalate	8015 MOD.			% Rec.			06/04/	1993 mmz
4ETHOD 8020/8015 MOD. (LDLS)								
Date Extracted		06-02-93					06/02/	1993 scn
Date Analyzed		06-02-93					06/02/	1993 scn
Dilution Factor		1					06/02/	1993 scn
AROMATIC VOLATILES							06/02/	1993 scn
Benzene	8020	ND		mg/Kg	0.0003	0.005	06/02/	1993 scn
Ethylbenzene	8020	ND		mg/Kg	0.0003	0.005	06/02/	1993 scn
Toluene	8020	ND		mg/Kg	0.0003	0.005	06/02/	1993 scn
Xylenes, total	8020	ND		mg/Kg	0.001	0.015	06/02/	1993 scn
TOT. PET. HYDROCARBONS							06/02/	1993 scn
as Gasoline	8015 MOD.	ND		mg/Kg	0.1	1.0	06/02/	1993 scn
Surrogate Spike Conc.		0.024		mg/Kg				1993 scn
Surrogate Spike				u				1993 scn
Bromofluorobenzene	8020/8015	91		% Rec.			, ,	1993 sçn
	,						,,	

ND: Not detected at the Method Detection Limit (MDL)

PQL: Practical Quantitation Limit

n: Motor Oil detected at 4.8 mg/Kg (estimated concentration, quantitated as Diesel).



Client Ref.: Burbank Airport Maintenance

Date Sampled: 05/27/1993 Date Reported: 06/07/1993

NET Job No.: 93.00588 Sample ID : CPT-1 @ 3'

Lab No. : 54177 Sample Matrix: SOIL

Analytes	Method	Results	Flags	Units	MDL	PQL		Analyst
METHOD DOHS/LUFT,LDL							Analyzed	
Extraction Method	8015 MOD.	. 3550					06/04/19	93 mmz
Date Extracted	8015 MOD	06-02-9	3				06/04/19	
Dilution Factor	8015 MOD	. 1					06/04/19	
TOT. PET. HYDROCARBON	8015 MOD						06/04/19	
as Diesel	8015 MOD.	. ND	n	mg/Kg	0.15	1	06/04/19	
Surrogate Spike-TPH	8015 MOD						06/04/19	
Spk Conc Chlorobenzene	8015 MOD.	2.5		mg/Kg			06/04/19	
Chlorobenzene	8015 MOD.	. 98		% Rec.			06/04/19	
Spk Conc Di-n-octyl-phthalat	.e8015 MOD.	. 50		mg/Kg			06/04/19	
Di-n-octyl-phthalate	8015 MOD			% Rec.			06/04/19	
METHOD 8020/8015 MOD. (LDLS)								
Date Extracted		06-02-9	3				06/02/19	93 scn
Date Analyzed		06-02-9	3				06/02/19	
Dilution Factor		1					06/02/19	
AROMATIC VOLATILES							06/02/19	
Benzene	8020	ND		mg/Kg	0.0003	0.005	06/02/19	
Ethylbenzene	8020	ND		mg/Kg	0.0003		06/02/19	
Toluene	8020	ND		mg/Kg	0.0003		06/02/19	
Xylenes, total	8020	ND		mg/Kg	0.001	0.015	06/02/19	
TOT. PET. HYDROCARBONS				J. J			06/02/19	
as Gasoline	8015 MOD.	. ND		mg/Kg	0.1	1.0	06/02/19	
Surrogate Spike Conc.		0.024		mg/Kg			06/02/19	
Surrogate Spike				و بد			06/02/19	
Bromofluorobenzene	8020/8019	5 96		% Rec.			06/02/19	

ND: Not detected at the Method Detection Limit (MDL)

PQL: Practical Quantitation Limit

n: Motor Oil detected at $3.0\ \mathrm{mg/Kg}$ (estimated concentration, quantitated as Diesel).



Client Ref.: Burbank Airport Maintenance

NET Job No.: 93.00588 Sample ID :

CPT-7 @ 16'

Lab No. ; 54178 Date Sampled: 05/27/1993 Date Reported: 06/07/1993

Sample Matrix: SOIL Analytes Method Results Flags Units MDL POL Date Analyst Analyzed METHOD 8240 (GCMS, Solid) Extraction Method 5030 06/02/1993 shu Date Extracted 06-02-93 06/02/1993 shu Dilution Factor 06/02/1993 shu 8240 Acetone ND ug/Kg 0.6 5 06/02/1993 shu 8240 Benzene ND ug/Kg 3.4 10 06/02/1993 shu Bromodichloromethane 8240 ND ug/Kg 0.9 ς 06/02/1993 shu Bromoform 8240 ND ug/Kg 1.4 5 06/02/1993 shu Bromomethane 8240 ND ug/Kg 0.6 5 06/02/1993 shu 2-Butanone 8240 ND ug/Kg 4.0 10 06/02/1993 shu Carbon disulfide 8240 ND 5 0.4 ug/Kg 06/02/1993 shu Carbon tetrachloride 2240 ND 0.6 5 ug/Kg 06/02/1993 shu Chlorobenzene 8240 ND ug/Kg 1.0 5 06/02/1993 shu Chloroethane 8240 ND 0.8 5 ug/Kg 06/02/1993 shu 2-Chloroethyl vinyl ether 8240 ND ug/Kg 0.7 10 06/02/1993 shu Chloroform 8240 ND ug/Kg 0.7 5 06/02/1993 shu Chloromethane 8240 ND 5 0.7 ug/Kg 06/02/1993 shu Dibromochloromethane 8240 ND 5 ug/Kg 1,2 06/02/1993 shu 1,2-Dichlorobenzene 8240 ND 5 ug/Kg 0.406/02/1993 shu 1,3-Dichlorobenzene 8240 ND 5 ug/Kg 0.4 06/02/1993 shu 1,4-Dichlorobenzene 8240 ND ug/Kg 0.5 5 06/02/1993 shu 1,1-Dichloroethane 8240 ND ug/Kg 0.7 5 06/02/1993 shu 8240 1,2-Dichloroethane ND ug/Kg 1.3 5 06/02/1993 shu 1,1-Dichloroethene 8240 ND 0.6 5 uq/Kq 06/02/1993 shu 8240 trans-1,2-Dichloroethene ND ug/Kg 0.6 5 06/02/1993 shu 8240 1,2-Dichloropropane ND ug/Kg 0.7 5 06/02/1993 shu 8240 cis-1,3-Dichloropropene ND 5 ug/Kg 1.5 06/02/1993 shu trans-1,3-Dichloropropene 8240 ND ug/Kg 0.7 5 06/02/1993 shu Ethvl benzene 8240 1.1 ug/Kg 0.7 S 06/02/1993 shu 2-Hexanone 8240 ND 2.1 10 ug/Kg 06/02/1993 shu Methylene chloride 8240 ND ug/Kg 1.5 10 06/02/1993 shu 8240 4-Methyl-2-pentanone ND ug/Kg 1.0 10 06/02/1993 shu 8240 ND Styrene 0.3 5 ug/Kg 06/02/1993 shu 1,1,2,2-Tetrachloroethane 8240 ND 5 ug/Kg 2.0 06/02/1993 shu 8240 ND Tetrachloroethene 5 ug/Kg 0.5 06/02/1993 shu 8240 Toluene ND 5 ug/Kg 1.1 06/02/1993 shu 1.1.1-Trichloroethane 8240 ND 5 0.6 ug/Kg 06/02/1993 shu 1.1.2-Trichloroethane 8240 NΩ ug/Kg 2.0 5 06/02/1993 shu Trichloroethene 8240 ND 5 ug/Kg 0.9 06/02/1993 shu Trichlorofluoromethane 8240 ND 5 ug/Kg 0.3 06/02/1993 shu Vinyl acetate 8240 ND 0.8 ug/Kg 10 06/02/1993 shu 8240 ND Vinyl chloride 0.8 ug/Kg 06/02/1993 shu Xylenes (total) 8240 ND 2.0 5 ug/Kg 06/02/1993 shu SURROGATE RESULTS 06/02/1993 shu Spk Conc Toluene-d8 8240 25 ug/Kg 06/02/1993 shu 8240 101 Toluene-d8 % Rec. 06/02/1993 shu Spk Conc Bromof Luorobenzene 8240 25 ug/Kg 06/02/1993 shu Bromofluorobenzene 8240 88 % Rec. 06/02/1993 shu

Not detected at the Method Detection Limit (MDL)

8240

8240

25

100

ug/Kg

% Rec.

PQL: Practical Quantitation Limit

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Spk Conc 1,2-DCA-d4

1,2-Dichloroethane-d4

06/02/1993 shu

06/02/1993 shu



QUALITY CONTROL REPORT

Fugro-McClelland 5855 Olivas Park Drive Ventura, CA 93003

06/23/1993

NET Job Number: 93.00588

Tom Matteucci

Enclosed is the Quality Control data for the following samples submitted to NET, Inc. - Burbank for analysis:

Sample Number	Sample	Description	Date Taken	Date Received
54169 54170 54171 54172 54173 54174 54175 54176 54177 54178	CPT-6 @ CPT-7 @ CPT-1 @ CPT-6 @ CPT-7	8' 3' 8' 1/2' 8' 3' 11'	05/27/1993 05/27/1993 05/27/1993 05/27/1993 05/27/1993 05/27/1993 05/27/1993 05/27/1993 05/27/1993 05/27/1993	05/27/1993 05/28/1993 05/28/1993 05/28/1993 05/28/1993 05/28/1993 05/28/1993 05/28/1993 05/28/1993

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.



QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Fugro-McClelland 5855 Olivas Park Drive Ventura, CA 93003

06/23/1993

Tom Matteucci

NET Job Number: 93.00588

Analyte	Prep Batch Number	Run Batch Wumber	Run Batch Flags	CCV True Concentration	Concentration Found	Percent Recovery
Method 418.1 (IR,TRPH)		16		51	51	100.0
METHOD DOHS/LUFT, LOL						100.0
as Diesel		164		500.0	513	102.6
Chtorobenzene		164		50.0	45.6	91.2
Di-n-octyl-phthalare		164		50.0	N/A	71.2
METHOD 8020/8015 MOD. (LDLS)					"""	
Benzene		86		20.0	19.5	97.5
Ethylbenzene		86		20.0	23.0	115.0
Toluene		86		20.0	22.3	111.5
Xylenes, total		86		60.0	66.3	110.5
as Gasoline		86		120.0	131.0	109.2
Bromofluorobenzene		86		20.0	22.25	111.3
METHOD 8240(GCMS, Solid)						111.3
Acetone		84		50.0	58.1	116.2
Benzene		84		50.0	45.7	91.4
Bromodichloromethane		84		50.0	46.3	92.6
Bromoform		84		50.0	48.7	97.4
8romomethane		84		50.0	50.1	100.2
2-8utanone		84		50.0	58.7	117.4
Carbon disulfide		84		50.0	55.9	111.8
Carbon tetrachloride		84		50.0	48_0	96.0
Chlorobenzene		84		50.0	48.0	96.0
Chloroethane		84		50.0	49.3	98.6
Z-Chloroethyl vinyl ether		84		50.0	40.4	80.8
Chloroform		84		50.0	47.0	94.0



QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Fugro-McClelland 5855 Olivas Park Drive Ventura, CA 93003

06/23/1993

Tom Matteucci

NET Job Number: 93.00588

	Ргер	Run	Run	ccv		
	Satch	Satch	Batch	True	Concentration	Percent
Analyte	Number	Number	Flags	Concentration	Found	Recovery
Chloromethane		84		50.0	48.9	97.8
Dibromochloromethane		84		50.0	44.2	88.4
1,2-Dichtorobenzene		84		50.0	41.3	82.6
1,3-Dichlorobenzene		84		50.0	43.4	86.8
1,4-Bichlorobenzene		84		50.0	43.7	87.4
1,1-Dichloroethane		84		50.0	45.8	91.6
1,2-Dichloroethane		84		50.0	47.6	95.2
1,1-Dichloroethene		84		50.0	48.5	97.0
trans-1,2-Dichloroethene		84		50.0	45.1	90.2
1,2-Dichloropropane		84		50.0	43.0	86.0
cis-1,3-Dichloropropene		84		50.0	46.0	92.0
trans-1,3-Dichloropropene		84		50.0	45.1	· ·
Ethyl benzene		84		50.0	48.0	90.2
2-Hexanone		84		50.0	45.4	96.0
Methylene chloride		84		50.0	46.0	90.8
4-Methyl-2-pentanone		84		50.0	45.2	92.0
Styrene		84		50.0	47.0	90.4
1,1,2,2-Tetrachloroethane		84		50.0	44.9	94.0
Tetrachloroethene		84		50.0	45.4	89.8
Toluene		84		50.0	46.2	90.8
1,1,1-Trichloroethane		84		50.0	49.0	92.4
1,1,2-Trichloroethane		84		50.0		98.0
Trichloroethene		84		50.0	44.6	89.2
Trichlorofluoromethane		84		50.0	45.7	91.4
Vinyl acetate		84		50.0	56.1 41.6	112.2 8 3 .2



QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Fugro-McClelland 5855 Olivas Park Drive Ventura, CA 93003

06/23/1993

Tom Matteucci

NET Job Number: 93.00588

Analyte	Prep Batch Mumber	Run Baton Number	Run Batch Flags	CCV True Concentration	Concentration Found	Percent Recovery
Vinyl chioride		84		20.		
Xylenes (total)		- •		\$0.0	50.5	107.0
		84		150	145	96.7
Poluene-d8		84		50	45.6	
Bromofluorobenzene		84		50.0		91.2
1,2-Dichloroethane-d4					50.1	100.2
	•	84		50	50.2	100.4



Fugro-McClelland 5855 Olivas Park Drive Ventura, CA 93003

06/23/1993

Tom Matteucci

NET Job Number: 93.00588

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis	F{ags	Units
Method 418.1 (IR, TRPH)		16	ОМ		mg/Қg
METHOD DOWS/LUFT, LDL					
as Diesel	3	164	₩ D		mg/Kg
Spk Cons Chiarobenzene	3	164	2.5		mg/Kg
Chlorobenzene	3	164	N/A		% Rec.
Spk Conc Di-n-octyl-phthalate	3	164	2.5		ing/Kg
Di-n-octyl-phthalate	3	164	114		% Rec.
METHOD 8020/8015 MOD. (LDLS)					
Benzene		86	ND		mg/Kg
Ethylbenzene		86	ND		æg/Kg
Toluene		86	ЮŌ		mg/Kg
Xylenes, total		86	NO		mg/Kg
as Gasoline		86	NO		mg/Kg
Bromofluorobenzene		86	104		% Rec.
METHOD 8240(GCMS, Solid)					
Acetone		84	СИ		ug/Kg
Benzene		84	ND		ug/Kg
Bromodichtoromethane		84	ND		ug/Kg
Bromoform		84	NO		ug/Kg
Bromomethane		84	ND		ug/Kg
2-Butanone		84	ND		ug/Kg
Carbon disulfide		84	NO		ug/Kg
Carbon tetrachtoride		84	NO		ug/Kg
Chlorobenzene		84	NO		ug/Kg
Chloroethane		84	ND		ug/Kg
2-Chloroethyl vinyl ether		84	ND		ug/Kg
Chloroform		84	ND		ug/Kg
Chloromethane		84	NO		ug/Kg
Dibromochloromethane		84	ND		ug/Kg
					-ai 153

··· Advisory Control Limits for Stanks:

Organics/Metals/Wet Chemistry/ Conventionals/GC - ail compounds should be less than 1/2 the Reporting Limit.



Fugro-McClelland 5855 Olivas Park Drive Ventura, CA 93003

06/23/1993

Tom Matteucci

NET Job Number: 93.00588

	Sigb	Run			
	Satch	Satch	Bl∌nk		
Analyte	Number	Number	Analysis	flags	Units
4.000					
1,2-Dichlorobenzene		84	ND		ug/Kg
1,3-Dichlarobenzene		84	ND		ug/Kg
1,4-Dichlorobenzene		84	ND		ug/Kg
1,1-Dichloroethane		84	ND		ug/Kg
1,2-Dichloroethane		84	МD		ug/Kg
1,1-Dichloroethene		84	NO		ug/Kg
trans-1,2-Dichloroethene		84	NO		ug/Kg
1,2-0ichtoropropane		84	Ю		ug/Kg
cis-1,3-Dichtoropropene		84	ND		ug/Kg
trans-1,3-Dichloropropene		84	ND		ug/Kg
Ethyl benzene		84	NĎ		ug/Kg
2-Hexanone		84	ND		ug/Kg
Methylene chloride		84	NĎ		ug/Kg
4-Methyl-2-pentanone		84	ND		ug/Kg
Styrene		84	ND		ug/Kg
1,1,2,2-Tetrachtoroethame		3≒	ND		ug/Kg
Tetrachloroethene		84	พอ		ug/Kg
Toluene		5-	NO.		ug/Kg
1,1,1-Trichtoroethane		84	ND		ug/Kg
1,1,2-Trichloroethane		84	ND		ug/Kg ug/Kg
Trichloroethene		84	ND		ug/Kg
Trichlorofluoromethane		84	СИ		ug/Kg
Vinyl acetate		84	D		ug/Kg ug/Kg
Vinyl chloride		84	ND		
Xylenes (total)		84	ND		ug/Kg
Spk Conc Toluene-d8		84	25		ug/Kg
Totuene-d8		84	104		ug/Kg % 056
Spk Conc Bromofluorobenzene		84	25		% Rec.
Bromofluorobenzene		84	300		ug/Kg
		C4	,00		% Rec.

Advisory Control Limits for Stanks:

Organics/Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than 1/2 the Reporting Limit.



Fugro-McClelland 5855 Olivas Park Drive Ventura, CA 93003

06/23/1993

Tom Matteucci

NET Job Number: 93.00588

	Prep	Run			
	Batch	Batch	Slank		
Analyte	Number	Number	Analysis	Flags	ปการร
Spk Conc 1,2-0CA-d4		84	25		ug/Kg
1,2-Dichtoroethane-d4		84	98		% Rec.

Organics/Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than 1/2 the Reporting Limit.



ADVISORY CONTROL LIMITS FOR BLANKS:

Organics/Metals/Wet Chemistry/ Conventionals/GC-All compounds should be less than 1/2 the Reporting Limit.

SURROGATE SPIKE RECOVERY (% RECOVERY) IN BLANKS AND SAMPLES:

	Soil/Sludge Matrix	Water Matrix
EPA Method 601/8010 for Voi 2-Chlorotoluene	latiles: 70-130*	70-130*
		70*150
EPA Method 602/8020 for Vol	atiles:	
Chlorobenzene	76 - 130*	70-130*
EPA Method 624/8240/8260 fo	r Volatiles:	
1,2-Dichloroethane-d4	70-130~	70-130*
Toluene d-8	70 · 130*	7 0 - 130*
Bromoftuorobenzene	70-130*	70-130*
EPA Method 625/8270 for Semi	-Volatiles/ Base Neutral Acid:	;
2-fluorophenol	25-121	21-100
Phenol -d5	24-113	10- 94
Nitrobenzene-d5	23-120	35-114
2-Fluorobiphenyl	30-115	43-116
Terphenyl-d14	18-137	33-161
2,4,6-Tribromophenol	19-122	10-123
Method 8015 Modified for Fue as gas:	l Hydrocarbon	
Bromofluorobenzene	70-130*	70-130*
Method DOHS/LUFT		
as diesel/kerosene:		
Chlorobenzene	60-140*	60-140*
Di-octyl chthalate	60-140*	60-140*



QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

Fugro-McClelland 5855 Olivas Park Drive Ventura, CA 93003

06/23/1993

Tom Matteucci

NET Job Number: 93.00588

	Prep	Run	LCS	LCS				
	8atch	Batch	True	Concentration	LCS	LCS	Flags	Units
Analyte	Mumber	Number	Concentration	Found	% Recovery	% RPD*		
Method 418.1 (IR, IRPH)		16	35	34	97.1			mg/Kg
METHOD DOHS/LUFT, LDL								
as Dieset	3	164	2	2.46	123.0			mg/Kg
Chiorobenzene	3	164	2.5	2.21	88.4			% Rec.
01-n-octyl-phthalate	3	164	2.5	N/A	N/A			% Rec.
METHOD DOHS/EUFT, LDL								
as Diesel	3	164	2	1.89	94.5			mg/Kg
Chlorobenzene	3	164	2.5	2.58	103.2			% Rec.
Di-n-octyl-phthalate	3	164	2.5	N/A	N/A			% Rec.
METHOD 8020/8015 MOD. (LDES)								., .,
Benzene		86	0.024	0.0228	95.0			mg/Kg
Ethylbenzene		86	0.024	0.0246	102.5			mg/Kg
Toluene		86	0.024	0.0252	105.0			mg/Kg
Xylenes, total	•	86	0.072	0.0726	100.8			mg/Kg
as Gasoline		86	0.144	0.1452	100.8			mg/Kg
Bromoftuorobenzene		86	0.024	0.0214	89.2			% Rec.
METHOD 8240(GCMS, Solid)								
Benzene		84	25	23.5	94.0			ug/Kg
Chlorobenzene		84	25	27.9	111.6			ug/Kg
1,1-Dichloroethene		84	25	25.9	103,6			ug/Kg
Toluene		84	25	24.0	96.0			ug/Kg
Trichloroethene		84	25	28.7	114.8			ug/Kg
Bromofluorobenzene		84	25	22.8	91.2			% Rec.
1,2-Dichloroethane-d4		84	25	23.6	94.4			% Rec.

LCS - Laboratory Control Standard

Advisory Control Limits - Inorganics - LCS recovery should be 80 - 120%.

*LCS/LCS DUPLICATE



ACCEPTANCE LIMITS

EABORATORY QUALITY CONTROL CHECK SAMPLE / EABORATORY CONTROL SAMPLE (LCS)

		\$01F\\$Fnp(GE MATRIX	WATER MATRIX		
ANALYTE	ANALYTICAL METHOD	%R (RANGE)*	MAX % RPD**	2R (RANGE)*	MAX % RPD**	
17 CAM Metals		······································		·		
Antimony	6010	60-140	25	60-140	25	
Arsenic	7061	80-120	20	80-:20	50	
8arium	6010	89-120	20	80-120	20	
Beryllium	6010	80-120	20	80-120	20	
Cadmium	6010	80-120	20	BC-120	20	
Chromium	6010	80-120	20	80-120	20	
Cobalt	6010	80-120	20	80-120	50	
Соррег	6010	80-120	20	80-120	20	
Lea d	6010	80-120	20	80-120	20	
Mercury	7471/7470	80-120	20	80-120	20	
Molybdenum	6010	80-120	20	80-120	20	
Nickel	6010	80-120	20	80-120	20	
Setenium	7741	80-120	20	80-120	50	
Silver	6010	80-120	20	80-120	20 20	
Thattium	6010	80-120	20	80-120	20	
Va nad jum	6010	80-120	20	80-120	20	
Zinc	6010	80-120	20	80-120	50	
Volatiles	601/602/624/	8010/8020/826	50			
Dichloroethene		80-120	20	80-120	20	
Trichloroethene		80-120	20	80-120	20	
lenzene		80-120	20	80-120	50	
oluene		80-120	20	80-120	20	
htorobenzene		80-120	20	80 - 120	20	
emi-Volatiles	625/8270 E	a≨e Neutrał A	ctds			
,2,4-Trichtorob	enzene	38-107	23	39- 98	28	
cenaph thene		31-187	19	46-118	31	
,4-Dinitrotalue	ne	28 - 89	47	24- 96	38	
yrene		35 - 142	36	26-127	31	
-Nitrosodi-N-Pr	opylamine	41-126	38	41-116	38	
,4-Dichlorobenz	ene	28-104	27	36 - 97	28	
entachlorophend	, t	17-109	47	9- 103	50	
henol		26-90	35	12- 89	42	
-Chlorophenol		25 - 102	50	27-123	40	
-Chloro-3-methy	lphenol	26-103	39	23- 97	42	

Advisory Control Limits

^{** %} RPD for LCS/LCS Duplicate



ACCEPTANCE LIMITS

LABORATORY QUALITY CONTROL CHECK SAMPLE/ LABORATORY CONTROL SAMPLE (LCS)

		SOIL/SLUDGE	MATRIX	WATER MATRIX		
ANALYTE	ANALYTICAL METHOD	%R (RANGE)	MAX % RPD**	KR (RANGE)	MAX **O98%	
fuel Hydrocarbor	s 8815 MOD					
Gas	. 2017 11221	80-120*	20*	80-120*	20*	
Diesel		80-120*	20*	80-120*	20*	
Total Recoverable	e Petraleum Hyd	drocarbon				
(TRPH)	418.1	80-120*	20≖	80-120*	20*	

^{*} Advisory Limits

^{** %} RPD for LCS/LCS Duplicate



QUALITY CONTROL REPORT MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Fugro-McClelland 5855 Olivas Park Drive Ventura, CA 93003

06/23/1993

Tom Matteucci

NET Job Number:

93.00588

NET Matrix Spike Sample ID:

Analyte	Prep Batch Number	Run Batch Number	Matrix Spike Result	Sample Result	Spike/ MSD Assount	Units	Percent Recovery	MSD Result	Percent Recovery	MS/#SD RPD	Flags
Method 418.1 (IR,TRPH) METHOD DOHS/LUFT,LDL		16	40	4.6	35	mg/Kg	101.1	40	101.1	0,0	
as Dieset METHOD 8020/8015 MOD. (LDLS	3	164	5.1	ND	2.0	mg/K g	255.0	8.0	400.0	44.3	n
as Gasoline METHOD 8020/8015 MOD. (LDLS		86	1,100	1,300	0.144	mg/Kg	-138888.	1,100	-138888.	0.0	m
Benzene		86	0.021	В	0.024	mg/Kg	87.5	0.019	79.2	19,0	
Toluene		86	0.023	ľä)	0.024	mg/Kg	95.8	0.021	87.5	9.1	
as Gasoline		86	0.135	NO	0.144	sig/Kg	93.8	0.125	86.8	7.8	
METHOD 8240(GCMS, Solid)						•			00.0	1,0	
Benzene		84	21.2	ND	25	ug/Kg	84.8	24.5	98.0	14.4	
Chlorobenzene		84	26.9	ND	25	ug/Kg	107.6	26.1	104,4	3.0	
1,1-Dichtoroethene		84	25.9	ND	25	ug/Kg	103.6	25.6	102.4	1.2	
Toluene		84	21.7	ND	25	ug/Kg	86.8	22.1	88.4	1.8	
Trichloroethene		84	22.3	ND	25	ug/Kg	89.2	25.0	100.0	11.3	

MS = Matrix Spike

MSD = Matrix Spike Duplicate

RPD = Relative Percent Offference



ACCE	DΤ	AMICE	1.7	MIT	c
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MATRIX SPIKE/MATRIX SPIKE DUPLICATE

		SO[L/SLUD:	IE MATRIX	WATER MA	TRIX
ANALYTE	ANALYTICAL METHOD	%R (RANGE)	MAX % RPO	ŽR (RANGE)	MAX % RPD
17 CAM Metals	·····				
Antimony	6010	20-125	25	50-120	20
Arsenio	7061	55-120	30	75-115	25
Barium	6010	75-120	20	80-120	25
Beryllium	6010	80-120	15	80 - 120	10
Cadmium	6010	80-120*	20	80-115	10
Chromium	6010	80-115	20	85-119	10
Cobalt	6010	75-115	25	29-115	10
Copper	6010	75-115	20	80-120*	15
Lead	6010	80-120*	20	80-120×	
Mercury	7471/7470	60-120	15		20
Malybdenum	6010			60-120	15
Nickel		80-120	15 16	85 - 115	10
	6010	80-115	15	80-120	15
Setenium	7741	50-125	30	60-125	25
Silver	6010	75-120*	15	75 - 120*	15
Thallium	6010	70 - 115	20	75-115	15
Vanadium	6010	80 - 115	10	85-115	10
Zinc	6010	75-120*	20	80-120*	15
Volatiles	601/602/624	/8010/8020/82	60		
Dichloroethene		70-130	25	70-130	25
Trichloroethene	•	70-130	25	70-130	Z5
Benzene	-	70-130	25	70-130	25 25
Totuene		70-130	25		
Chlorobenzene		70-130 70-130	25	70 - 130 70 - 130	25 25
Semi-Volatiles	625/8270	Base Neutral	Acīds		
1,2,4-Trichloro	benzene	38-107	23	39- 98	28
Acenaph thene		31-187	19	⊷ລ-118	31
2,4-Dinitrotole	iene	28- 89	47	24- 96	38
Pyrene		35 - 142	36	26-127	31
N-Nitrosodi-N-P	ropylamine	41-126	38	41-116	38
1,4-Dichlorober		28-104	27	35- 97	28
Pentach Loropher		17-109	47	9: 103	20
Phenol		26-90	35	12- 89	42
2-Chlorophenol		25-102	50	27-123	40
4-Chloro-3-meth	viohenoi	26-103	39	23- 97	42
4-Nitrophenol	A other contract	11-114	50	10- 80	
c. epiteriot		11 119	30	14. 00	50



ACCEPTANCE LIMITS

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

		SOIL/SLUDGE	MATRIX	WATER MATRIX		
ANALYTE	ANALYTICAL METHOD	%R (RANSE)	MAX % RPD	%R (RANGE)	MAX % RPD	
		· · · · · · · · · · · · · · · · · · ·				
Fuet Hydrocarbo	n 8815 MOD.					
Gas		70 - 130*	25*	70-130*	25*	
Diesel		50-150*	25*	50-150*	25*	
Total Recoverabl	e Petroleum Hyd	Inocarbon				
(TRPH)	418.1	70 -13 9*	25*	70-130*	25*	

^{*}Advisory Limits

Heling (Si)	CPT-7/00	PT - 1	CPT-1@	CPT-7	CPT =- 7	CPT-6	Sample Identification	CH-24-3:45
Relinquished By (Signature)	12 m		(2) Stat = 1	@ 11fest "	7 @ 3fest "	@ 3/ -11	Ification Date OC 5 feet 5278	PAQ
	1330	1472	1415	1310	1240	1230	e Time	bank 6
Date 5-27-93	Tedlar big	11	11 8:7	11 11	11	11	Container (Size/Material)	burbank Clendale Pasidena Arros
154/ 154/	gas		11 44	1	-	Sic 1992	Liquid, Soil, etc.)	dena Arros
He We							Preservalive	
Received By (Signature)							A B C D E F	alyses
Analyses: A Typh (416.1) B Typh (416.1) C TYX = (8220) D 100 (5240) E		Tav CAVINED 5/28					will call with analys	Earthank August 7540 W
CHAIN OF CUSTODY RECORD CHAIN OF CUSTODY RECORD SECURITION OF STATEMENT OF STATEM								

BGPAA 0061



Burbank Division 700 South Flower Street Burbank, CA 91502

Tel: (213) 849-6591 Fax: (818) 954-0232

DOHS Certificate Number: 1192 Expiration Date: May 31,1994

06/10/1993

Tom Matteucci Fugro-McClelland 5855 Olivas Park Drive Ventura, CA 93003

Client Ref: Burbank Airport Maintenance Date Received: 05/27/1993

Sample analysis for the project referred to above has been completed and results are located on attached pages.

Should you have questions regarding procedures or results, please feel welcome to contact our Client Services Representatives or the Laboratory Director.

Kimberly \$. Banks Project Manager

Rick Schrynemeeckers Laboratory Director

KB:rm

Attachments:

Analytical Reports

Chain of Custody Document

QA/QC Data Reports

Invoice

Client Net Acct No: 13200 NET Job No: 93.00623





CASE NARRATIVE

Fugro-McClelland 5855 Olivas Park Drive Ventura, CA 93003 06/10/1993

NET Job Number: 93.00623

Tom Matteucci

Following is the case narrative for the following samples submitted to NET, Inc. - Burbank for analysis:

I. CROSS REFERENCE TABLE:

Sample Number	Sample	Description	Date Taken	Date Received
54294	CPT-1 @	8′	05/27/1993	05/27/1993

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.



CASE NARRATIVE (cont.)

II. EXTRACTION:

No exceptions were encountered.

III. ANALYSIS

A. Holding Times:

No exceptions were encountered.

8. Analytical Exceptions:

Sample 54294, hydrocarbons heavier than diesel detected, sample flagged with an "o" qualifier.

IV. QUALITY CONTROL

A. Method Blanks:

No exceptions were encountered.

B. Surrogate Recoveries:

No exceptions were encountered.

C. Matrix Spike/Matrix Spike Duplicates (MS/MSD):

No MS/MSD performed due to insufficient sample volume.

D. Laboratory Control Samples (LCS):

The two LCS's associated with this sample failed the 80-120% advisory limits, but both were within the 70-130% control limits. The %RSD was within acceptance limits. The surrogate recovery was also within acceptance limits. No sample remained, so sample could not be re-analyzed.

V. OTHER



Client Ref.: Burbank Airport Maintenance

Date Sampled: 05/27/1993
NET Job No.: 93.00623
Date Reported: 06/10/1993

Sample ID : CPT-1 @ 8'

Lab No. : 54294 Sample Matrix: SOIL

Analytes	Metho	d Result	s Flags	Units	MDL	PQL	Date	Analyst
							Analyze	:d
METHOD DOHS/LUFT, LDL								
Extraction Method	8015 M	OD. 3550					06/10/	1993 mmz
Date Extracted	8015 M	OD. 06-09	-93					1993 mmz
Dilution Factor	8015 M	OD. 1					06/10/	1993 mmz
TOT. PET. HYDROCARBON	8015 M	OD					06/10/	1993 mmz
as Diesel	8015 M	OD. ND	0	mg/Kg	1.0	10	06/10/	1993 mmz
Surrogate Spike-TPH	8015 M	OD					06/10/	1993 mmz
Spk Conc Chlorobenzene	8015 M	DD. 2.5		mg/Kg			06/10/	1993 mmz
Chlorobenzene	8015 M	OD. 115		% Rec.			06/10/	1993 mmz
Spk Conc Di-n-octyl-phthal	ate8015 M	OD, 2.5		mg/Kg			06/10/	1993 mmz
Di-n-octyl-phthalate		OD. N/A		% Rec.				1993 mmz

ND: Not detected at the Method Detection Limit (MDL)

PQL: Practical Quantitation Limit

o: Motor Oil detected at 24 mg/Kg (quantitated as Diesel) No other TPH components detected by this method.



QUALITY CONTROL REPORT

Fugro-McClelland 5855 Olivas Park Drive Ventura, CA 93003

07/06/1993

NET Job Number: 93.00623

Tom Matteucci

Enclosed is the Quality Control data for the following samples submitted to NET, Inc. - Burbank for analysis:

Sample Date Date Number Sample Description Taken Received 54294 CPT-1 @ 8' 05/27/1993 05/27/1993

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.



QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Fugro-McClelland 5855 Olivas Park Drive Ventura, CA 93003

07/06/1993

Tom Matteucci

NET Job Number: 93.00623

Analyte	Prep Batch N⊔mber	Run 8atch Number	Run Batch Flags	CCV True Concentration	Concentration Found	Percent Recovery
Anatyte	Hallabet	acabet	rtags	concentration	FOUND	Kecovery
METHOD DOHS/LUFT, LDL						
as Diesel		167		500.0	526	105.2
Chlorobenzene		167		50.0	46.87	93.7
Di-n-octyl-phthalate		167		50.0	N/A	
METHOD DOHS/LUFT,LDL						
as Diesel		172		500.0	552	110.4
Chlorobenzene		172		50.0	47.75	95.5
Di-n-octyl-phthalate		172		50.0	N/A	



Fugro-McClelland 5855 Olivas Park Drive Ventura, CA 93003 07/06/1993

Tom Matteucci

NET Job Number: 93.00623

	Prep	Run			
	Batch	Batch	Blank		
Analyte	Number	Number	Analysis	Flags	Units
METHOD DOHS/LUFT, LDL					
as Diesel	4	172	סא		mg/Kg
Surrogate Spike-TPH	4	172	4 4		
Spk Conc Chlorobenzene	4	172	50		mg/Kg
Chiorobenzene	4	172	77		% Rec.
Spk Conc Di-n-octyl-phthalate	4	172	50		mg/Kg
Di-n-octyl-phthalate	4	172	N/A		% Rec.



*Advisory limits.

ADVISORY CONTROL LIMITS FOR BLANKS:

Organics/Metals/Wet Chemistry/ Conventionals/GC-All compounds should be less than 1/2 the Reporting limit.

SURROGATE SPIKE RECOVERY (% RECOVERY) IN BLANKS AND SAMPLES:

	Soil/Sludge Matrix	Water Matrix
EPA Method 601/8010	for Volatiles:	
2-Chlorotoluene	70-130*	70-130*
EPA Method 602/8020	for Volatiles:	
Chlorobenzene	70-130*	70-130*
EPA Method 624/8240/8	3260 for Volatiles:	
1,2-Dichtoroethane-d4	70-130*	70-130*
Toluene d-8	70- 130 *	70-130*
Bromofluorobenzene	70-130*	70-130*
EDS Mothod 625/8270 f	for Semi-Volatiles/ Base Neutral /	acide
2-fluorophenol	25-121	21-100
Phenol -d5	24-113	10- 94
Nitrobenzene-d5	23-120	35-114
2-Fluorobiphenyl	30-115	43-116
Terphenyl -d14	18-137	33-141
2,4,6-Tribromophenol	19-122	10-123
Method 8015 Modified as gas:	for Fuel Hydrocarbon	
Bromofluorobenzene	70-130*	70-130*
Method DOHS/LUFT		
as diesel/kerosene:		
Chlorobenzene	60-140*	60~140*
Diroctyl phthalate	60-140*	60-140*



QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

Fugro-McClelland 5855 Olivas Park Drive Ventura, CA 93003

07/06/1993

Tom Matteucci

NET Job Number: 93.00623

Analyte	Prep Batch Number	Run Batch Number	ECS True Concentration	LCS Concentration Found	LCS % Recovery	LCS % RPD*	Flags	Units
METHOD DOHS/LUFT, LDL								
as Diesel	4	172	2	1.44	72.0	9.9		mg/Kg
Chlorobenzene	4	172	2.5	1.71	68.4			% Rec.
Di-n-octyl-phthalate	4	172	N/A	N/A	0			% Rec.
METHOD DOHS/LUFT,LDL					•			
as Diesel	4	172	2	1.59	79.5			mg/Kg
Chlorobenzene	4	172	2.5	1.86	74.4			% Rec.
Di-n-octyl-phthalate	4	172	N/A	N/A	0			% Rec.

LCS - Laboratory Control Standard

Advisory Control Limits - Inorganics - LCS recovery should be 80 - 120%.

*LCS/LCS DUPLICATE



ACCEPTANCE LIMITS

LABORATORY QUALITY CONTROL CHECK SAMPLE / LABORATORY CONTROL SAMPLE (LCS)

		SOIL/SLUDGE	E MATRIX	WATER MA	KIAX
ANALYTE	ANALYTICAL METHOD	%R (RANGE)*	MAX % RPD**	%R (RANGE)*	MAX % RPD**
17 CAM Metals					
Antimony	6010	60-140	25	60-140	25
Arsenic	7061	80-120	20	80-120	20
Barium	6010	80-120	20	80-120	20
8eryllium	6010	80-120	20	80-120	20
Cadmium	6010	80-120	20	80-120	20
Chromium	6010	80-120	20	80-120	20
Cobalt	6010	80-120	20	80-120	20
Copper	6010	80-120	20	80-120	20
Lead	6010	80-120	20	80-120	20
Mercury	7471/7470	80-120	20	80-120	20
Molybdenum	6010	80-120	20	80-120	20
Nickel	6010	80-120	20	80-120	20
Selenium	7741	80-120	20	80-120	20
Silver	6010	80-120	20	80-120	20
Thattium	6010	80-120	20	80-120	20
Vanadium	6010	80-120	20	80-120	20
Zinc	6010	80-120	20	80-120	20
Volatiles	601/602/62	4/8010/8020/820	60		
Dichloroethene		80-120	20	80-120	20
Trichtoroethen	9	80-120	20	80-120	20
Benzene		80-120	20	80-120	20
Toluene		80-120	20	80-120	20
Chlorobenzene		80-120	20	80-120	20
Semi-Volatiles	625/8270	Base Neutral /	Acids		
1,2,4-Trichlore	obenzene	38-107	23	39- 9 8	28
Acenaphthene		31-187	19	46-118	31
2,4-Dinitrotel	Jene	28- 89	47	24~ 96	38
Pyrene		35-142	36	26-127	31
N-Nitrosodi-N-I	Propylamine	41-126	38	41-116	38
1,4-Dichlorobe		28-104	27	36- 97	28
Pentachlorophe		17-109	47	9- 103	50
Phenol		26-90	35	12- 89	42
2-Chlorophenol		25-102	50	27-123	40
4-Chloro-3-meti	nyiphenol	26-103	39	23- 97	42
4-Nitrophenol	· · · · · · · · · · · · · · · ·	11-114	50	10- 80	50

^{*} Advisory Control Limits

^{** %} RPD for LCS/LC\$ Duplicate



ACCEPTANCE LIMITS

LABORATORY QUALITY CONTROL CHECK SAMPLE/ LABORATORY CONTROL SAMPLE (LCS)

		SOIL/SLUDGE	MATRIX	WATER MATRIX		
ANALYTE	ANALYTICAL METHOD	%R (RANGE)	MAX % RPD**	%R (RANGE)	MAX %RPD**	
		······································		······································		
Fuel Hydrocar Gas	bon 8015 ₩00.	80-120*	20*	80-120*	20*	
Diesel		80~120*	20*	80-120*	20*	
	ble Petroleum Hyd		204	00 120+	70*	
(TRPH)	418.1	80-120*	20*	80-120*	20*	

^{*} Advisory Limits

^{** %} RPD for LCS/LCS Duplicate



Burbank Division 700 South Flower Street Burbank, CA 91502

Tel: (213) 849-6591 Fax: (818) 954-0232

DOHS Certificate Number: 1192 LACSD Lab I.D. Number: 10158

07/01/1993

Tom Matteucci Fugro-McClelland 5855 Olivas Park Drive Ventura, CA 93003

JUL 13 1993

Client Ref: Burbank Airport Date Received: 05/20/1993

Sample analysis for the project referred to above has been completed and results are located on attached pages.

Should you have questions regarding procedures or results, please feel welcome to contact our Client Services Representatives or the Laboratory Director.

Fronting 5 Bents Kimberly 5. Banks Project Manager

KB:rm
Attachments:
 Analytical Reports
 Chain of Custody Document

Client Net Acct No: 13200 NET Job No: 93.00687





Client Name: Fugro-McClelland Client Ref.: Burbank Airport

NET Job No.: 93.00687

Date Taken: 05/20/1993 Date Reported: 07/01/1993

Sample ID : Stained Surface near DH-10

Lab No. : 54745

Sample Matrix: SOIL

ANALYTES/METHOD 17 CAM Metals, Total		METHOD	RESULTS	UNITS	REPORTING
					LIMIT
Antimony	(ICP)	6010	ND	mg/Kg	10
Arsenic	(GFAA)	7060	37	mg/Kg	0.5
Barium	(ICP)	6010	110	mg/Kg	2.0
Beryllium	(ICP)	6010	ND	mg/Kg	2.0
Cadmium	(ICP)	6010	ИD	mg/Kg	2.0
Chromium	(ICP)	6010	42	mg/Kg	2.0
Cobalt	(ICP)	6010	7.3	mg/Kq	5.0
Copper	(ICP)	6010	61	mg/Kg	2.0
Lead	(GFAA)	7421	300	mg/Kg	0.2
Mercury	(CVAA)	7471	0.3	mg/Kg	0.1
Molybdenum	(ICP)	6010	ND	mq/Kq	5.0
Nickel	(ICP)	6010	21	mg/Kg	5.0
Selenium	(GFAA)	7740	ND	mg/Kg	0.5
Silver	(ICP)	6010	ND	mg/Kg	2.0
Thallium	(ICP)	6010	NĐ	mg/Kg	20
Janadium	(ICP)	6010	24	mg/Kg	5.0
Zinc	(ICP)	6010	180	mg/Kg	5.0

EARN ENG.1 14 (12/84)



Burbank Division 700 South Flower Street Burbank, CA 91502

Tel: (213) 849-6591 Fax: (818) 567-6477

DOHS Certificate Number: 1192 LACSD Lab I.D. Number: 10158

07/28/1993

Tom Matteucci Fugro-McClelland 5855 Olivas Park Drive Ventura, CA 93003 OEGEIVE JUL 3 0 1993

Fugro-McCienana (West), Inc.

Client Ref: Burbank Airport Date Received: 05/20/1993

Sample analysis for the project referred to above has been completed and results are located on attached pages.

Should you have questions regarding procedures or results, please feel welcome to contact our Client Services Representatives or the Laboratory Director.

Timberly 5. Banks Project Manager

KB:rm
Attachments:
 Analytical Reports
 Chain of Custody Document

Client Net Acct No: 13200 NET Job No: 93.00817





Client Name: Fugro-McClelland Client Ref.: Burbank Airport

NET Job No.: 93.00817

Date Taken: 05/20/1993
Date Reported: 07/28/1993

Sample ID : Stained Surface near DH-10

Lab No. : 55376

Sample Matrix: SOIL

ANALYTES/METHOD	METHOD	RESULTS	UNITS	REPORTING LIMIT
Extraction (WET)		DONE		11 2 00 A A
METALS Soluble/ STLC Lead (GFAA)	7421	16	mg/L	0.01

ND - Not Detected at the Reporting Limit page: 2



Burbank Division 700 South Flower Street Burbank, CA 91502

Tel: (213) 849-6591 Fax: (818) 567-6477

AUG 0 5 1993

Fugro-medicadu (West), Inc.

DOHS Certificate Number: 1192 LACSD Lab I.D. Number: 10158

08/02/1993

Tom Matteucci Fugro-McClelland 5855 Olivas Park Drive Ventura, CA 93003

Client Ref: Burbank Airport/92-41-3392

Date Received: 05/20/1993

Sample analysis for the project referred to above has been completed and results are located on attached pages.

Should you have questions regarding procedures or results, please feel welcome to contact our Client Services Representatives or the Laboratory Director.

Kimberly/S. Banks Project Manager

KB:rth
Attachments:
Analytical Reports
Chain of Custody Document

Client No: 13200 NET Job No: 93.00837





Elient Name: Fugro-McClelland

Client Ref.: Burbank Airport/92-41-3392

NET Job No.: 93.00837

Sample Matrix: Sample Date: Sample ID : Lab No. : SOIL 05/20/1993 DH-8 @ 0.5

SOIL 05/20/1993 DH-8 a 3' 55473

SOIL 05/20/1993 DH-9 a .5/ 55474

ANALY	TES/METHOD	METHOD	R.L.	UNITS		RESU	LTS	 	
Extractio	n (WET)				DONE		DONE	DONE	
METALS So Lead	luble/ STLC (FLAA)	239.1	0.05	mg/L	0.63		ND	0.98	

55472



Client Name: Fugro-McClelland

Client Ref.: Burbank Airport/92-41-3392

NET Job No.: 93.00837

Sample Matrix:

Sample Date:

SOIL

SOIL

SOIL

Sample ID :

05/20/1993 DH-9 a 3/

05/20/1993 DH-10 a 3'

05/20/1993

DH-10 a 0.5'

Lab No. :

55475

55476

55480

ANALYTES/METHOD	METHOD	R.L.	UNITS		RESULTS	**************************************
Extraction (WET)				DONE	DONE	DONE
METALS Soluble/ STLC Lead (FLAA)	239.1	0.05	mg/L	0.10	ND	0.34

APPENDIX C WASTE MANIFESTS

58A/4-div.aug BGPAA 0085

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		3. Generator's Name and Mailing Address				
1-800-852-7550	١	Burbank Glentale Pasadema a. 2627 Hollywood Way, Burk	Dark Ca. 913	505		
852-		4. Generator's Phane (919) 840-3456				
ĕ	1	5. Transporter 1 Company Name 6. U	IS EPA ID Number			
L		105T CIO	(10) 0) 2 3 16 0 3	14146		
CALL		7. Transporter 2 Company Name 8. U	IS EPA ID Number			
_ [-	Designated Facility Name and Site Address 10. U	IS EPA ID Number			
1 D C		GIBSON ENVIONMENTAL				
E	İ	But of Commercial way	109121000	1/12/2		
<u>~</u> ౖ ౖ ౖ ౖ		11. US DOT Description (including Proper Shipping Name, Hazard Class.		12. Containers	-	14. Unit IS
- Z		* RQ Hazardous Waste So		No. Type	Quantity	Wt/Vol
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CENTER 1-800-424-8802; WITHIN		d.				
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Y Y	١	Wear appropriate personal p	NOT PETTLE		- 18	of emegeny 8 840-9456
里	ı	equipment.			CA11 81	5 840. 9456
1		GENERATOR'S CERTIFICATION: I hereby declare that the contents packed, marked, and labeled, and are in all respects in proper conditions.	of the consignment are fully a	according to poplicable	d above by proper shi	ipping name and are classified,
CALL		If I am a large quantity generator, I certify that I have a program				•
딅		economically practicable and that I have selected the practicable in threat to human health and the environment; OR, if I am a small q	ethod of treatment, storage, o	or disposal currently as	railable to me which a	ninimizes the present and feture
OR SPILL		waste management method that is available to me and that I can off	Signature	, , , , , , , , , , , , , , , , , , , 	······································	Month Day Year
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Ž	T R	17. Transporter 1 Acknowledgement of Receipt of Maderials Printed/Typed Define	Signature ///	int t		Month Day , Year
EMERGENCY	N S P	JOHN D'KELLEY	FKu 1980	esseq		1018/11/193
3	R	18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name	Signature	1	-	Month Day Year
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IN CASE		19. Discrepancy Indication Space				
Z	C					•
	L 1	20. Facility Owner or Operator Certification of receipt of hazordous man		except as noted in Ite	m 19.	Month Day Year
	Y	Printed/Typed Name	Signature		•	Month Day Year
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